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CONCRETE MARKET HOUSE, FORT WAYNE, INDIANA. CITY HALL IN THE DISTANCE

FORT WAYNE MARKET HOUSE

Constructed Entirely of Concrete, Except Roof—Method of Constructing Columns and Pavilions—Concrete Surfaces of White Cement and Roofing Gravel—Constructing Market Tables of Concrete

By EDWARD P. BAILEY

The city of Fort Wayne, Ind., has recently completed a market house which is constructed entirely of concrete, and in which successful effort has been made to produce excellent architectural results. The farmers' market has been a feature of the city for a number of years. Until the completion of this market-house three days a week were designated as market days, but no satisfactory accommodation had been furnished for the market men.

The new market-house extends for a block and a half along Barr street; from the rear of the city hall one-half block to Wayne street, and an entire block from Wayne to Washington street. There is an entrance into each of these sections from Wayne street and into the longer section from Washington street, a pavilion being provided at each entrance. The two pavilions facing each other on the opposite sides of Wayne

street are connected by steel arches, from which electric lights are suspended. The entire length of the market is 450 feet and the width from curb to curb is 26 ft. 8 in. The teams back up to these curbs, outside the structure, while the purchasers use the passage through it.

The pavilions are of the Ionic order of architecture. The capitals of the columns were cast in glue molds, as were also the lions' heads over the drinking fountains, while the other architectural features, such as rosettes, keystones, etc., were cast in plaster molds and set in place as the structure went up. The drinking fountains were cast in place, all pipes, etc., being placed in position beforehand. The walls of the pavilions were built upon a core of brick work, presenting an unbroken surface of concrete made of white sand and Medusa white cement, with an aggregate of birdseye or roofing gravel. When the forms were removed the surface was scrubbed with wire

brushes exposing the aggregate, and the general effect is very pleasing. The columns were cast in place in the same manner as the columns of the main part of the structure. These pavilions contain the market master's office as well as the public toilet rooms.

In the main part of the structure there are 54 round columns, and two square columns at the end next to the City Hall. The round columns have shafts 8 ft. 9 in. high, each resting on an octagonal base which varies in height with the elevation of the ground surface. The shafts are each 24 inches in diameter at the base and 21 inches at the top, and each is surmounted with a plain molded capital and square cap. These columns support the roof, and within the space enclosed by them are the tables used by the market men, and the passageway for purchasers.

In constructing the columns, a rough core was cast of concrete mixed one to five, which was 6 inches less in diameter than the finished column. When this core had hardened the forms were removed and the mold for the finished column was put in place around the core. This mold was built of wood, in four sections, with very carefully finished surfaces. Between this mold and the core was poured the concrete, of white sand, Medusa white cement and birdseye gravel, such as was used for the pavilions, the proportion being one cement, two sand



WAYNE STREET PAVILIONS, WITH CONNECTING ARCH

and three gravel. Medusa waterproofing compound was used in all of the concrete to the extent of about $1\frac{1}{2}$ or 2 per cent. of the amount of cement used. Twenty-four hours later the forms were removed and the surface brushed. In casting the columns long bolts were imbedded in the top of them in the line of their axes, and protruding for some distance, for the purpose of anchoring the roof to the columns. The caps of the columns were cast with circular openings in the center, through which the bolts would pass, and after the caps had been accurately adjusted to place this opening was filled with concrete, this serving the double purpose of holding the caps in place and giving additional anchorage to the bolts. The roof consists of a framework of wood covered with red roofing tile. A concrete floor is provided for the entire structure.

In line with the columns are placed 112 tables, two tables being placed in each opening between columns. These tables are entirely of concrete and are five feet long, two and one-half feet wide, and stand two feet ten inches above the floor. The tops rest upon two end supports of concrete cast solid, but of slightly ornamental design, 4 inches thick and about 2 ft. 8 in. high. They are reinforced with expanded metal and each was cast in a plaster mold made in four parts on a wooden frame, the mold consisting of these four sides clamped together and laid on a concrete floor, which had previously been covered with oil paper. The concrete was poured into this mold, and the top trowelled off smooth. In making these end supports two bolts were imbedded as dowels in the top of each, and holes were provided in the table tops for receiving these bolts. The bolt holes were countersunk in the top with a small trowel for receiving the nuts. The table tops are $1\frac{3}{4}$

inches thick, each reinforced with a sheet of Page woven wire and having a flange about 3 inches high extending around three sides. The tops were also cast on a concrete floor in a steel mold made for the purpose. All the concrete used in the tables was made of a one to two mixture of ordinary Portland cement and washed sand.

The architects for the market building were Mahurin & Mahurin, and the contractors were Borkenstein & Son, all of Fort Wayne, Ind.

GERMAN SYSTEM OF SEWAGE PURIFICATION

A system of treating sewage which has been introduced in Germany and is known as the Braun system, and which has been used in hospitals and military barracks, was described in a recent issue of the *Gesundheits Ingenieur*. It consists of two septic tanks, each of a capacity of 24 hours average flow of sewage, and a filter, with provision for aeration. The effluent from septic tank No. 1 is removed by a pipe and drops a short distance through the air into tank No. 2, during which drop the sewage is supposed to absorb oxygen from the air, and probably at least gets rid of a certain amount of the contained gases. From tank No. 2 the effluent passes to a filter bed, which is usually from five to eight ft. deep, and consists of loosely packed large hard clinkers, furnace slag or coke without any small particles or sand.

The most novel feature of the plant is the method of distributing the sewage onto the filter. For this purpose a pipe from septic tank No. 2 discharges the sewage into a main distributing gutter which is carried over the filter for its entire length. Immediately below this gutter and at right angles to it are so-called "drip pipes," which are placed above the entire surface and 20 inches apart. The pipes are of a special construction in cross-section, in that the top at the center is depressed lower than the sides or edges. The edges are provided with slots at intervals of about six inches. Long wicks of an absorbent material are fastened in these slots, one end hanging for a short distance outside of the pipe. These wicks suck up the septic effluent, which drops from the outer end of the wick onto the filter.

The filter material is supported by a grating composed of small reinforced concrete beams between which are slots running the entire length of the bed. Beneath this grating is an open chamber from which air passes up into the filter. The bottom of this chamber is inclined about 2 per cent., and gutters in it collect the filter effluent and lead it into a collecting tank, from which it is finally discharged. The entire plant is enclosed.

It is stated that these plants give a purified, odorless effluent. Experience in England and this country would lead one to anticipate serious difficulties in connection with the system for distributing the effluent to the filter, the most probable being the choking up of the slots and coating of the wicks by mycelial or other growths. Several classes of trouble might also be expected, due to the continual dropping of the sewage at fixed points about a foot apart, among these being local clogging and low efficiency of filter action.

OIL ON ASPHALT STREETS

In a discussion on pavement maintenance before the American Society of Engineering Contractors, the subject of the effect on asphalt and bituminous macadam streets of oil from automobiles was discussed. Concerning this Mr. Geo. C. Warren said: "If the distribution of the oil is very excessive it would be very injurious. If, for instance, an automobile were standing for five or six hours a day dropping oil on a given area of pavement, the oil would in time soak in; but, on the other hand, a slight amount of oil dropped by moving automobiles on our excessively traveled boulevards is a protection to the pavement. The best asphalt pavement I have ever seen is in front of the Auditorium Hotel in Chicago. The only reason that I can conceive for that being better than the other

pavements of its class is because of the large number of automobiles that have kept the surface of the asphalt at all times coated with a thin film of oil, which, I believe, has kept the immediate surface in a durable condition. Such a slight quantity of oil as drops from the engine, followed by the spreading of the oil by the automobile wheels, is, I believe, a great protection to a bituminous pavement surface."

SOUTH NORWALK MUNICIPAL ELECTRIC PLANT

The municipal electric plant of South Norwalk, Conn., was described by us in February, 1907, as one of the most successful in the country. In the spring of 1910 the growth of its business had been so great that it was necessary to increase the capacity of the plant, and \$29,881.66 was spent for this purpose. The new installation, which increases the former rated capacity of the plant about 22 per cent, consists of a brick extension with slate roof and concrete floor; a 225-h.p. American Diesel fuel oil engine; a 160-kilowatt 250-volt direct-current Fort Wayne generator, direct connected to the engine; a Norwalk air compressor driven by a 25-h.p. motor; a cooling water system consisting of two cooling towers, two motor-driven pumps, a receiving tank and an elaborate system of piping and valves; two switchboard panels, complete with all instruments, generator and motor connections; an extra engine and generator foundation, and a new trunk feeder.

This was all paid for from the profits of the plant for a little over a year, and the city now owns a plant valued at \$185,000, the debt on which has been reduced to \$50,000 by the profits from its operation. It is believed that the gross profits of more than \$25,000 a year will be increased with the added business this enlargement makes possible.

ELIZABETH TUNNEL, LOS ANGELES AQUEDUCT

By BURT A. HEINLY

THE "opening up" on February 27 of the Elizabeth Tunnel, which forms the most important strategic point in the construction of the new municipal water works of Los Angeles marks a chapter in the construction of that enterprise.

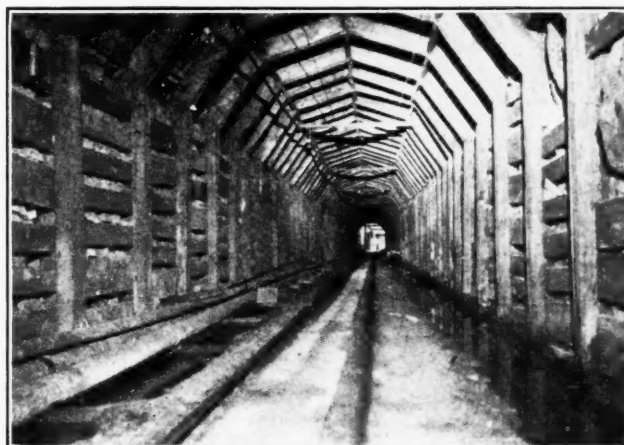
This tunnel pierces the crest of the Coast Range (Sierra Madre) with a total length of 26,872 feet, and is the second longest water tunnel in the United States. For the past eighteen months it has attracted the attention of the engineering world for the rapidity with which it has been constructed and the remarkably low cost of boring. All American tunnel driving records have been repeatedly broken, that of the Gunnison with 449 feet made in 1906 having been increased to 604 feet by the record of the Elizabeth south portal crews in May, 1910. The tunnel has been "opened up" more than a year ahead of the estimated time and the final cost will be approximately \$400,000 less than the sum set aside for the purpose. The total cost is now estimated at \$1,612,200.

The Owens River Project, or Los Angeles Aqueduct, of which this forms a part, is, as has already been described in MUNICIPAL JOURNAL AND ENGINEER, a plan of supplementary water supply being carried out by the municipality to conduct the snow waters of the eastern face of the Sierra Nevada Mountains through a concrete aqueduct 230 miles across the Mojave Desert, beneath the Coast Range and into the San Fernando Valley at the mouth of which Los Angeles is built. The enterprise will provide a domestic supply for 1,000,000 people, irrigate 125,000 acres of land, and make possible the development of 100,000 horse-power of electrical energy by the fall in the aqueduct grade.

The Sierra Madre Range, which rises to a height of from 4,200 to 6,100 feet at the back of Los Angeles, was the great natural barrier to the construction of the aqueduct. This made necessary the boring of the Elizabeth Tunnel, located 67 miles north of Los Angeles, which will carry the water from the Fairmont Reservoir in the Antelope Valley on the north side of the range and deliver it on the south side of the mountain into the San Francisquito Canyon, thence into the San Fernando Valley.

The Gunnison, built by the United States Reclamation Service, is the longest water tunnel in the United States, with a length of 30,000 feet; after it comes the Elizabeth, then the famous Sutro, four miles long, and built in the late seventies to drain the Comstock mines.

The Elizabeth, after being faced with 8 inches of concrete, will have a height of 10 feet 10 inches and a width of 9 feet 6 inches. The grade is 5.28 feet to the mile and the capacity is 650,000,000 gallons per 24 hours.



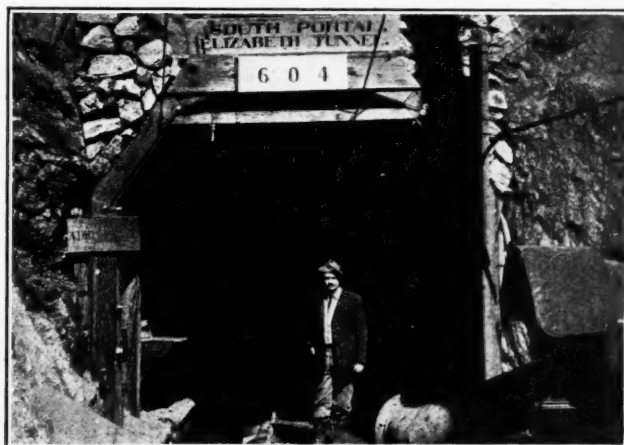
INTERIOR OF ELIZABETH TUNNEL
Showing timbering in place

Work was inaugurated October 5, 1907, at the south portal and November 2 at the north portal, and has been carried on by three shifts unremittingly from both ends excepting on several occasions when the men were driven from the north portal by floods of water.

Twelve hundred and forty days were required for the boring of the tunnel, and the cost was \$50 per foot. The concreting can be completed for \$10 per foot at outside cost, according to the Chief Engineer, making the completed tunnel cost \$60 per foot. The time required, as estimated by the board of consulting engineers, was 1,680 working days with a daily progress of 8 feet on each face, and the completed cost was figured at \$75.33 per foot.

Construction, as a rule, has been in hard granite, although the north portal heading has been driven through swelling earth, saturated sands and stiff clays with water pockets encountered on half a dozen different occasions. Despite these drawbacks the joining of the two headings was a distance of only 75 feet beyond the middle point of the tunnel.

All the work has been done by day labor under the supervision of the city's water superintendent, William Mulholland. The men were paid under the bonus system, by which they were rewarded for efficiency beyond the average and to this cause is given much of the credit for the remarkable speed attained.



SOUTH PORTAL OF ELIZABETH TUNNEL

TABLE No. 5—Continued

Is Traffic on Street Light or Heavy?

L = light; H = heavy; B = both; M = medium.

City	Sheet Asphalt	Asphalt Block	Stone Block	Brick	Wood Block	Bituminous Macadam	Plain Macadam	Gravel
ILLINOIS:								
Batavia.....	H	.....	.....	H B M	.....	H	.....	.....
Bloomington.....	B M	L	.....	.....	.....
Decatur.....	B M	.....	.....	.....	.....
East St. Louis.....	B M	.....	.....	.....	.....
Elgin.....	H M	.....	L	M	.....
Evansville.....	M M	.....	L	L	.....
Galena.....	H H	.....	L	L	.....
Highland Park.....	H H	.....	L	L	.....
Kankakee.....	L	L	.....
Lake Forest.....	L	L	.....
Marion.....	L M	.....	.....	.....	.....
Matteson.....	L M	.....	.....	.....	.....
Normal.....	L M	.....	.....	.....	.....
Oak Park.....	L	.....	.....	L M	.....	.....	L	.....
Paris.....	L M	.....	.....	.....	.....
Pontiac.....	L M	.....	.....	.....	.....
Rockford.....	L M	.....	.....	.....	.....
Streator.....	B M	.....	.....	.....	.....
Taylorville.....	M	.....	L & L	.....	.....
Waukegan.....
Waukegan.....
INDIANA:								
Anderson.....	M	.....	.....	.....	.....
Bedford.....	L H M	.....	.....	L	.....
Bloomington.....	M	.....	.....	.....	.....
Butler.....	M M	.....	.....	.....	.....
Columbus.....	M M	.....	.....	.....	.....
Evansville.....	M M	.....	.....	.....	.....
Fort Wayne.....	L M	M	.....	M M	.....	L M	M	.....
Hammond.....	M	.....	.....	M M	.....	.....	.....	.....
Kokomo.....	M	.....	.....	M M	.....	.....	.....	.....
Logansport.....	M	.....	.....	.....	.....
Madison.....
Michigan City.....
Mishawaka.....
Monticello.....
Muncie.....
New Albany.....
Peru.....
Plymouth.....
Portland.....
South Bend.....	H	.....	.....	.....	.....	.....	.....	.....
W. Lafayette.....
IOWA:								
Ames.....	M M	H	.....	.....	.....
Burlington.....	M M	.....	.....	.....	.....
Cedar Rapids.....	M M	.....	.....	.....	.....
Centerville.....	M M	.....	.....	.....	.....
Chariton.....	M M	.....	.....	.....	.....
Clinton.....	M M	.....	.....	.....	.....
Creston.....	M M	.....	.....	.....	.....
Dubuque.....	M M	.....	.....	.....	.....
Grinnell.....	M M	.....	.....	.....	.....
Hampton.....	M M	.....	.....	.....	.....
Iowa City.....	M M	.....	.....	.....	.....
Muscatine.....	M M	.....	.....	.....	.....
Ottumwa.....	M M	.....	.....	.....	.....
Perry.....	M M	.....	.....	.....	.....
Sioux City.....	M	.....	.....	M M	.....	.....	.....	.....
Waterloo.....	M M	.....	.....	.....	.....
KANSAS:								
Argentine.....	M M	.....	.....	.....	.....
Arkansas City.....	M M	.....	.....	.....	.....
Atchison.....	M M	.....	.....	.....	.....
Chanute.....	M M	.....	.....	.....	.....
Emporia.....	M M	.....	.....	.....	.....
Hutchinson.....	M M	.....	.....	.....	.....
Independence.....	M M	.....	.....	.....	.....
Leavenworth.....	M M	.....	.....	.....	.....

STREET TRAFFIC DATA

Data Concerning Character of Traffic on Streets of the Several Classes in Each City, Summarized in Last Week's Issue

The following table was crowded out of last week's issue by other matter, although a synopsis of the information contained therein was given. Since that issue went to press we have received a number of additional cards, from which we obtain the following statements concerning traffic:

Pine Bluff, Ark.; wood block, heavy.
 Sacramento, Cal.; sheet asphalt, both; stone block, heavy; asphalt macadam, both.
 Southampton, Conn.; plain macadam, medium.
 Stamford, Conn.; brick, heavy.
 Aurora, Ill.; sheet asphalt, light; brick, heavy.
 Boston, Mass.; sheet asphalt, light; stone block, heavy; brick, heavy; wood block, heavy and medium; bituminous macadam, medium; plain macadam, light.
 Kansas City, Mo.; sheet asphalt, both; stone block, heavy; wood block, heavy; bituminous macadam, light; concrete, both.
 Port Jervis, N. Y.; brick, medium.
 Canton, O.; brick, both.
 Minersville, Pa.; brick, light.
 Aberdeen, Wash.; sheet asphalt, heavy; gravel, heavy; plank road, medium.
 Suffolk, Va.; stone block, heavy.
 Burlington, Wis.; brick, medium.

TABLE No. 5

Is Traffic on Street Light or Heavy?

L = light; H = heavy; B = both; M = medium.

City	Sheet Asphalt	Asphalt Block	Stone Block	Brick	Wood Block	Bituminous Macadam	Plain Macadam	Gravel
CALIFORNIA:								
Benicia.....	.....	.....	.....	.....	.....	.....	.....	.....
Fresno.....	B	.....	.....	.....	.....	.....	.....	.....
Oakland.....	H M	.....	.....	.....	.....	.....	.....	.....
Pasadena.....	M	.....	.....	.....	.....	.....	.....	.....
San Jose.....	.....	.....	.....	.....	.....	.....	.....	.....
San Cruz.....	H	.....	.....	.....	.....	.....	.....	.....
Santa Monica.....	L	.....	.....	.....	.....	.....	.....	.....
Stockton.....	H	.....	.....	.....	.....	.....	.....	.....
Visalia.....	.....	.....	.....	.....	.....	.....	.....	.....
COLORADO:								
Boulder.....	.....	.....	.....	.....	.....	.....	.....	.....
Denver.....	H	.....	H	.....	M	M M	H	H
CONNECTICUT:								
Ansonia.....	.....	.....	.....	.....	.....	.....	.....	.....
Greenwich.....	.....	.....	.....	.....	.....	.....	.....	.....
Hartford.....	M	.....	.....	.....	.....	.....	.....	.....
Middletown.....	.....	.....	.....	.....	.....	.....	.....	.....
New London.....	.....	.....	H	.....	.....	.....	.....	.....
Norwalk.....	.....	.....	.....	H	.....	.....	.....	.....
Putnam.....	.....	.....	.....	.....	.....	.....	.....	.....
Waterbury.....	.....	.....	.....	.....	.....	.....	.....	.....
DISTRICT OF COLUMBIA:								
Washington.....	M	M	M	.....	.....	M	L	.....
FLORIDA:								
Sarasota.....	.....	.....	M	.....	.....	.....	.....	.....
GEORGIA:								
Americus.....	.....	.....	.....	.....	.....	.....	.....	.....
Catsville.....	.....	.....	.....	.....	.....	.....	.....	.....
Dublin.....	.....	.....	.....	.....	.....	.....	.....	.....
Macon.....	.....	.....	.....	.....	.....	.....	.....	.....
Savannah.....	L	L	H	M M	.....	.....	.....	L

TABLE No. 5—Continued
TRAFFIC ON STREET LIGHT OR HEAVY
; M = medium.

L = light; H = heavy; B = both; M = medium.

[illegible]

TABLE No. 5—Continued
TRAFFIC ON STREET LIGHT OR HEAVY?
; M = medium.

L = light; H = heavy; B = both; M = medium.

City.	Sheet Asphalt Block.	Asphalt Block.	Stone Block.	Brick.	Wood Block.	Bituminous Macadam.	Plain Macadam.	Gravel.
KANSAS—Continued								
Ottawa.....	...	...	...	L	...	...	...	...
Pittsburg.....	B	...	...	L	...	...	...	...
Salina.....	L	...	...	H M L	H	M	...	...
Wichita.....	...	...	...	...	...	...	...	...
Winfield.....	...	...	...	...	...	...	...	...
KENTUCKY:								
Louisville.....	B	H	...	B B	...	...	...	...
Ludlow.....	...	...	...	B H	...	H	...	...
Maysville.....	...	...	...	...	...	...	...	...
Pineville.....	...	...	...	...	...	...	...	...
LOUISIANA:								
Alexandria.....	...	...	...	H	...	H M L	...	L M
Baton Rouge.....	...	...	...	...	...	...	...	...
Shreveport.....	...	...	...	...	...	...	...	...
MAINE:								
Portland.....	...	H	...	...	...	M	L	...
MARYLAND:								
Annapolis.....	L	H	...	H L	...	H L	...	...
Baltimore.....	...	...	...	...	...	...	...	...
MASSACHUSETTS:								
Arlington.....	...	H	...	M	...	H M L	H L	L
Cambridge.....	...	H	...	L	...	L H H	B B	L
Concord.....	...	H	...	...	...	L L	L L	L
Everett.....	...	H	...	...	...	L L	L L	L
Greenfield.....	...	H	...	...	...	H H	L B	L
Haverhill.....	...	B	...	...	...	...	...	...
Lawrence.....	...	H H	...	...	...	...	...	...
Lowell.....	...	H	...	...	...	...	...	...
New Bedford.....	...	H	...	...	...	...	...	...
Newton.....	...	...	...	...	...	...	...	...
Springfield.....	M	...	...	...	...	...	B L	L
Waltham.....	...	...	...	...	...	...	...	...
Westfield.....	L	M	...	...	...	M	...	...
Worcester.....	...	...	...	...	...	...	...	...
MICHIGAN:								
Albion.....	...	...	...	M	...	L	...	...
Battle Creek.....	...	...	...	...	...	L	L	...
Cadillac.....	...	...	...	...	...	...	...	...
Coldwater.....	...	...	...	M	...	H	...	...
Crystal Falls.....	...	...	...	...	...	...	M	L
Escanaba.....	...	...	...	M	...	L	...	L
Flint.....	M	...	...	...	...	...	...	...
Grand Rapids.....	L	...	...	...	...	...	...	...
Holland.....	...	...	...	...	...	...	...	...
Ionia.....	...	...	...	...	...	M	L	...
Lansing.....	...	...	...	...	...	L	...	...
Manistee.....	...	...	...	L	...	L	...	...
Monroe.....	...	...	...	...	...	...	...	...
Muskegon.....	...	...	...	...	...	L	...	...
Negaunee.....	...	...	...	...	...	...	...	...
Petoskey.....	...	...	...	...	...	L	...	...
Pontiac.....	...	...	...	M	...	...	...	...
Port Huron.....	...	...	...	M M	...	...	...	...
Saginaw.....	M	...	...	M L	...	H	H	...
St. Joseph.....	...	...	...	...	...	...	...	...
Sault Ste. Marie.....	...	...	...	...	...	...	...	...
MINNESOTA:								
Albert Lea.....	...	...	...	B	B	...	...	H H
Alexandria.....	...	...	...	...	...	...	...	...
Crookston.....	...	...	...	...	H	...	...	...
Little Falls.....	...	...	...	M	...	H	...	M L
Mankato.....	...	...	...	...	...	...	...	...
Montevideo.....	...	...	...	...	...	...	...	...
New Ulm.....	...	...	...	...	...	...	...	...
Wing.....	...	M	...	L	M	...	...	...

TABLE No. 5—Continued

IS TRAFFIC ON STREET LIGHT OR HEAVY?
= both; M = medium.

= both; M = medium.

City.	Sheet Asphalt Block.	Asphalt Block.	Stone Block.	Brick.	Wood Block.	Bitumi- nous Ma- cadam.	Plain Macadam.	Gravel.
PENNSYLVANIA—Continued								
North Braddock.....	.....	.....	.....	M	.....	.....	.....	.....
Pitt City.....	B	.....	H	B	H	.....	B	.....
Philadelphia.....	.....	.....	.....	M	.....	.....	.....	.....
Pottstown.....	.....	.....	.....	L	.....	B	L	.....
Punxsutawney.....	.....	.....	L	L	.....	.....	.....	.....
Reading.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Mary's.....	M	.....	M	.....	.....	.....	.....	.....
Scranton.....	.....	.....	.....	M	.....	.....	.....	.....
Sharon.....	.....	.....	.....	L	.....	.....	.....	.....
Sharpville.....	.....	.....	.....	.....	.....	L	.....	.....
S. Bethlehem.....	.....	.....	.....	M	.....	.....	.....	.....
Tyrone.....	.....	.....	.....	M	.....	.....	.....	.....
Wilkes-Barre.....	M	.....	M	L	.....	.....	.....	.....
Williamsport.....	.....	.....	.....	.....	.....	.....	.....	.....
RHODE ISLAND:								
Pawtucket.....	.....	.....	H	H	.....	L	L	L
Providence.....	.....	.....	.....	.....	.....	.....	.....	.....
SOUTH CAROLINA:								
Columbia.....	.....	.....	H	H	.....	H	.....	.....
Greenwood.....	.....	.....	.....	H	.....	.....	.....	.....
Orangeburg.....	.....	.....	.....	.....	.....	.....	.....	.....
SOUTH DAKOTA:								
Aberdeen.....	.....	.....	.....	.....	M	L	.....	.....
Lead.....	.....	.....	.....	.....	.....	.....	.....	.....
TENNESSEE:								
Bristol.....	.....	.....	.....	.....	H	.....	H	L
Clarksville.....	B	.....	H	M	.....	.....	M	.....
Knoxville.....	.....	.....	.....	.....	.....	.....	.....	.....
TEXAS:								
Austin.....	.....	.....	.....	H	.....	H	.....	H
Denison.....	.....	.....	.....	L	.....	M	.....	M
San Antonio.....	.....	.....	.....	M	.....	.....	.....	.....
Waco.....	.....	.....	.....	.....	.....	.....	.....	.....
UTAH:								
Ogden.....	M	.....	.....	.....	.....	.....	.....	.....
Salt Lake.....	L	.....	.....	.....	.....	.....	.....	.....
VERMONT:								
Barre.....	.....	.....	.....	.....	.....	H	L	L
St. Albans.....	.....	.....	.....	.....	.....	.....	M	.....
VIRGINIA:								
Danville.....	.....	.....	.....	H	.....	M	L	.....
Hampton.....	.....	.....	.....	.....	.....	.....	.....	.....
Norfolk.....	L	L	L	.....	H	L	L	.....
WASHINGTON:								
Bellingham.....	.....	.....	.....	H	.....	.....	.....	.....
Spokane.....	L	.....	M	H	.....	.....	.....	.....
Tacoma.....	B	.....	.....	H	.....	.....	.....	.....
WEST VIRGINIA:								
Martinsburg.....	.....	.....	.....	.....	.....	.....	H	.....
WISCONSIN:								
Appleton.....	M	.....	.....	.....	.....	.....	.....	.....
Baraboo.....	.....	.....	.....	.....	.....	.....	L	.....
Beloit.....	.....	.....	.....	M	H	.....	.....	.....
Chippewa Falls.....	.....	.....	.....	M	.....	H	.....	.....
Kenosha.....	.....	.....	.....	L	.....	M	.....	.....
La Crosse.....	.....	.....	.....	H	.....	.....	.....	.....
Menomonee.....	.....	.....	.....	.....	.....	M	.....	.....
Portage.....	.....	.....	.....	.....	.....	.....	L	.....
Racine.....	L	.....	.....	H	.....	.....	.....	.....
Watertown.....	.....	.....	.....	M	.....	M	.....	.....
Waukesha.....	.....	.....	.....	.....	.....	M	.....	.....

TABLE No. 5—Continued

IS TRAFFIC ON STREET LIGHT OR HEAVY
= both; M = medium.

= both; M = medium.

City.	Sheet Asphalt	Asphalt Block.	Stone Block.	Brick.	Wood Block.	Bituminous Macadam.	Plain Macadam.	Gravel.
NEW YORK—Continued								
Salamanca.....	L	..	..	H	..	..	..	..
Schenectady.....	L	..	..	L	..	..	L	..
Syracuse.....	H	..	L	L	M	..	..	..
Troy.....	L	..	..	..	..	H	..	..
Utica.....	L	..	..	..	..	..	..	..
Watertown.....	..	..	H	..	..	..	..	..
Watervliet.....	..	..	..	..	..	..	..	..
NORTH CAROLINA:								
Asheville.....	H	..	..	H	..	H	..	..
Raleigh.....	..	..	..	..	L	..	..	H
NORTH DAKOTA:								
Grand Forks.....	..	..	..	..	..	..	..	..
Valley City.....	..	..	..	..	..	..	..	..
OHIO:								
Ashtabula.....	..	..	H	M	..	..	L	..
Bellefontaine.....	..	..	..	L	..	..	L	..
Bucyrus.....	..	..	..	H	..	..	..	..
Chillicothe.....	M	..	H	M	H	M	M	..
Cincinnati.....	H	..	H	B	..	..	..	..
Cleveland.....	..	..	..	L	..	..	..	..
Coshocton.....	..	..	..	M	..	..	..	..
Delaware.....	..	..	..	L	..	..	..	..
E. Palestine.....	..	..	..	L	..	..	..	..
Hamilton.....	..	..	..	M	..	..	..	..
Lancaster.....	..	..	..	H	..	..	..	..
Leetonia.....	..	..	..	H	..	..	..	..
Lima.....	..	..	..	H	..	..	..	..
Lockland.....	..	..	..	L	..	..	..	..
Lorain.....	..	..	..	L	..	..	..	..
Marietta.....	..	..	..	L	..	..	..	..
Marion.....	..	..	..	L	..	..	..	..
Newark.....	..	..	..	L	..	..	..	..
Oberlin.....	..	..	..	L	..	..	..	..
Painesville.....	..	..	..	L	..	..	..	..
Portsmouth.....	L	..	..	L	..	..	M	..
Sandusky.....	L	..	H	B	H	..	M	M
Springfield.....	..	..	..	L	..	..	..	..
Van Wert.....	..	..	..	..	..	..	..	..
Zanesville.....	..	..	..	..	..	..	..	..
OKLAHOMA:								
Bartlesville.....	..	..	..	L	..	L	..	..
Chickasha.....	L	..	..	..	..	..	..	..
El Reno.....	L	..	..	..	..	..	..	..
Lawton.....	H	..	..	H	..	..	..	..
Muskogee.....	M	..	..	..	..	M	M	..
Tulsa.....	B	..	..	..	..	..	..	..
OREGON:								
Albany.....	..	..	..	..	..	..	..	..
Baker.....	..	..	..	..	..	..	..	..
Grant's Pass.....	..	..	..	..	..	..	H	..
Oregon City.....	..	..	..	..	..	..	M	..
The Dalles.....	..	..	..	..	..	..	..	..
PENNSYLVANIA:								
Allentown.....	L	..	..	H	..	..	H	..
Bethlehem.....	..	..	..	M	..	..	L	..
Carlisle.....	..	..	..	..	..	..	B	..
Lebanon.....	..	..	..	..	..	..	..	..
Easton.....	..	..	..	L	..	..	..	..
Erie.....	..	..	..	..	..	..	..	..
Gallitzin.....	..	..	..	M	..	..	..	..
Girardville.....	..	..	..	L	..	..	..	..
Harrisburg.....	..	..	..	..	..	..	..	..
Lansford.....	..	..	..	..	..	..	..	..
McKees Rocks.....	..	..	L	M	..	..	..	..
Meadville.....	..	..	..	M	..	..	..	..
New Castle.....	..	..	..	M	..	..	..	..
Torristown.....	..	..	..	B	..	..	..	..

DENVER STREET SIGNS

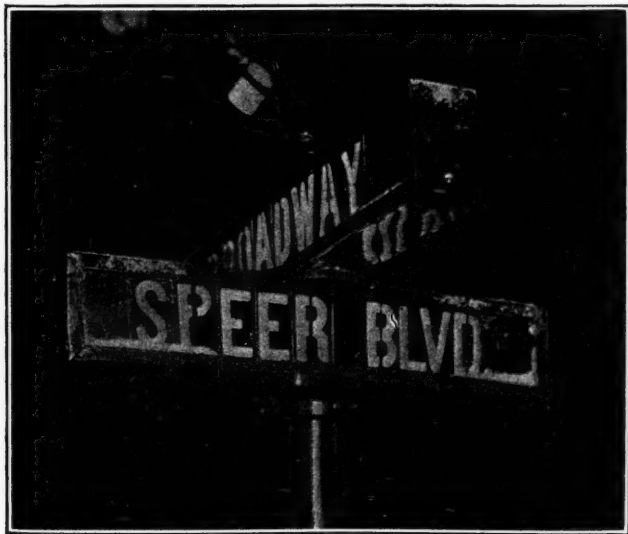
Denver, Col., has six classes of street signs, some of which are believed to be unique in their design. The old wooden signs nailed to telephone and telegraph poles are rapidly being discarded for combination iron poles and signs, and for ornamental bronze signs on certain streets. There are 1,050 of the iron signs, which were designed by Capt. Philips, of the Highway Department. These signs, with posts, cost approximately



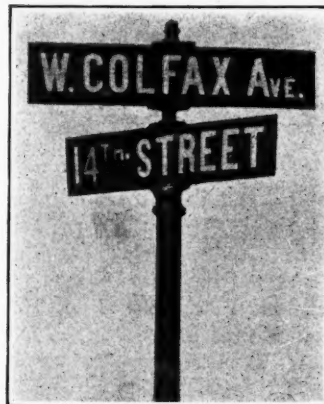
BRONZE SIGNS ON LIGHT STANDARD

\$9 each, including the labor of putting them into position. The pole is of wrought iron pipe and is set in a concrete foundation. The posts are 8 ft. high and the signs are of a superior quality of galvanized iron containing letters of brass enameled in white 3 inches high. The two sign plates, or three where there are three intersecting streets, are riveted to the poles in such a way that it is almost impossible to remove them.

On certain of the streets are ornamental signs which are attached to the combination light and trolley poles, completely encircling the pole. These signs are cast in two pieces, the name of the two intersecting streets occurring in each piece separated by a single ornamental projection containing the screw holes for fastening the casting to the pole. These are made of bronze, the letters being of polished bronze on a dark unpolished background. The double signs cost \$3.50 each, in-



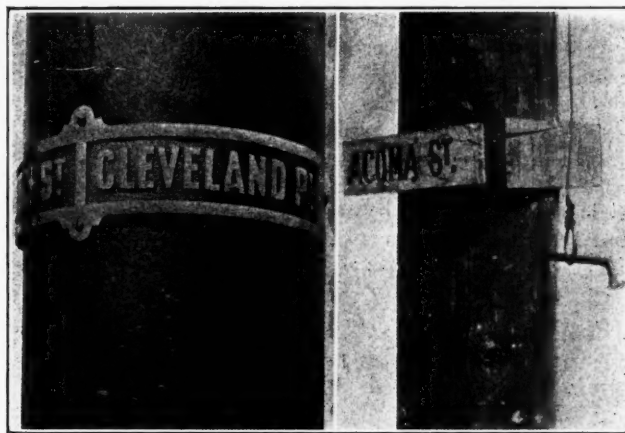
ILLUMINATED STREET SIGN—FLASHLIGHT TAKEN DURING SNOW STORM



IRON SIGNS GENERALLY USED IN RESIDENCE SECTIONS

cluding fastening in place. Another sign somewhat similar to this, for use on the lighting standards, is in the form of a flat bronze name plate, which fits into the base of the standard.

Of the sixth style of sign but one has yet been placed in Denver. The pole supporting the sign is connected with and receives current from electric wires above, and the sign, which



CIRCULAR BRONZE SIGN ON TROLLEY POLE

OLD WOODEN SIGNS

is in the form of a long narrow box, is lighted inside by means of an eight-candle power incandescent lamp. The light is reflected to the signs from the interior, the letters being on a background of mica. The illuminated letters can be seen for quite a distance and are arranged so that they can be removed without injury to the standard in case it should be desired to change the name. The lamp is said to be so arranged that it can not well be disturbed by mischiefmakers, but can be removed for cleaning or repair.

MUNICIPAL OWNERSHIP IN CALGARY

The city of Calgary, Canada, owns and operates the street railway, water works and electric light plants, which are operated by a commission of three. During the five years that the electric plant has been under municipal control the rates have been reduced 45 per cent. The street railway has been operating about eighteen months, and contracts have been let for 22 miles of new track this year. The water works plant was purchased from a private company several years ago in a very dilapidated condition, since when it has been largely reconstructed; 19½ miles of mains having been laid in 1910. This plant has cost about \$1,400,000. The electric plant has cost about \$500,000, and the street railway about \$530,000. During 1910 the net surplus was \$3,335 for the water works, \$22,407 for the lighting and power plant, and \$33,315 for the street railway. In figuring these allowance was made for interest, sinking fund and depreciation, except that apparently no depreciation is charged off for the water works. The interest rates are from 3 to 4½ per cent, and the sinking fund about 1.6 per cent for the water works and 1.8 per cent for the other two. For this information we are indebted to A. G. Gravel, Commissioner of Water and Electric Light.

METER INSTALLATION AND MAINTENANCE

In a paper read before the convention of the League of Nebraska Municipalities, Mr. H. D. Mead, Water Commissioner of Chadron, Neb., after discussing the value of meters, presented the following ideas and figures concerning the installation and maintenance of them:

Various plans are adopted by cities for the installation of meters.

1st. By ordinance, compelling the consumers to install meters at their own expense.

2nd. Meter installed by the city, requiring a deposit from the consumer while the meter is in service.

3rd. Meter installed by the city, exacting a small fee each month as rent until meter is paid for.

4th. Meter installed and kept in repair by the city free of cost to the consumer.

The last plan is considered the best, the commissioner becomes familiar with the construction and working of the particular make adopted, uniform parts are carried for repairs, ease in interchanging, records can be kept more complete. While requiring quite an outlay at the start, the results are quite satisfactory. Compelling consumers by ordinance to install at their own expense is a very unsatisfactory way to put the water system on a meter basis, the cost of installing a meter makes it a hardship on some, the consumer who is willing to put in a meter is taking the worst of it from his backward neighbor.

Quoting from a decision rendered by the Railroad Commission of Wisconsin, (on the complaint of a consumer against the Hudson, Wisconsin Water Works.) "The logic is overwhelming to the effect that meters constitute a part of the facilities incident to the services for which the management, whether public or private, is responsible. A meter is a part of the equipment of the plant. The city and that alone is responsible for the type of meter used and for their accuracy."

Durability

Tests have been made in several cities to determine the life of a meter and the cost of maintenance and repairs. Actual figures are available now to enable us to state that life on a high-grade meter is at least twenty-five years, with a good reason to believe that this figure will be largely increased in the future. This means a low depreciation figure. The cost of repairs of the high-grade meter of today is very low. Reports from several cities show that the maintenance account ranges from 5 to 20 cents per meter per year, varying with the quality of the water and other local conditions.

My own experience has shown, with about 480 meters in service, a maintenance account of 11 cents per year.

DISCUSSION OF WATER WORKS TOPICS

It is proposed that, at the convention of the American Water Works Association, which will be held in Rochester, N. Y., June 6 to 10, there be a general discussion on a number of topics, since it is realized that such general discussions are not infrequently of more interest and value than elaborate papers. A circular issued by the secretary gives a list of twenty-one questions concerning which discussion is requested, with the idea that members may prepare themselves beforehand with data and material for taking part in such discussions. The first of these deals with the treating of water to adapt it for boiler use, the question being whether it would be advisable to treat an entire supply which was suitable for all other purposes, or to furnish a separate supply for boilers. Other questions deal with the washing of mechanical filters, the use of oil for fuel, depth of mains necessary to prevent freezing, "red water" troubles, connection with independent factory fire services, superintendents' salaries, proper caulking of lead joints, metering free public supplies, preventing electrolysis, use of hypochlorite, use of leadite, unlawful use of water through fire

services, construction of valves, use of steam turbines direct-connected to pumps, under-registration of water meters, and locating leaks in mains.

Those who cannot be present at the convention are requested by the secretary to send written discussions on these questions. If there are any who have not received his circular we know that he will be glad to send them a copy on request.

WATER RATES IN DULUTH

EDITOR MUNICIPAL JOURNAL AND ENGINEER, New York City.

Dear Sir: I have been considerably interested in the articles appearing in your magazine in reference to Water Rates.

In the first place it is as impossible to have a uniform table of rates as it is to have uniform conditions.

A complaint in Duluth that our rates were discriminating and in favor of the large consumer as against the small, has led to our making a very exhaustive study of this matter as it affects Duluth.

Our table of rates are as follows:

The first	8,000 cu. ft. each month,	17½c per 100
" next	8,000 " " " "	10 " "
" " "	60,000 " " " "	7½ " "
" " "	100,000 " " " "	5 " "
All over	176,000 " " " "	2½ " "

Minimum monthly rate 50c.

Our income is as follows:

Water rates.....	\$231,000
Hydrant rentals.....	40,000
Our expenditures were:	
Pumping water	28,855
Water services, which include all administration expenses, replacements, repairs, insurance, etc.....	51,124
Interest on outstanding bonds.....	105,627
Total	\$185,606

The excess earnings are used in extending the plant. The hydrant rentals can be divided, in my opinion, as follows:

To apply on the interest.....	\$ 30,000
" " " " pumping.....	5,000
" " " " services.....	5,000

Leaving to collect of the consumer:

For pumping.....	\$ 23,855
" water services.....	46,124
" interest.....	73,627

As regards the cost of pumping, every gallon should be charged for at the same rate.

As regards the administration expenses, every service, whether affording a consumption of 300 feet or 300,000 feet, costs the same.

As regards the interest, were the works constructed simply to supply the present consumption and no more, it might be proper to charge that to each gallon at a fixed rate, but no works are so constructed. If the proper wisdom is shown, the plant, pumping works and mains, will have a capacity of four times the present consumption, simply to provide for the future.

As regards the surplus earnings which are to be devoted to new extensions, it certainly seems ridiculous to entertain the idea that the present consumers should pay for new extensions to the system for new consumers on the basis of their uses of water.

From this it appears that a sliding scale is just, and should be arranged to cover these various points; that is, if you can find a human mind capable of compassing it.

We estimate that we have about 10,000 family consumers; 3,346 paying not to exceed 53c per month; 6,288 paying not to exceed \$1.00 per month; 8,810 paying not to exceed \$2.00 per month; so out of the balance of the family consumers and from those who are using water for business and mechanical purposes comes the bulk of our receipts. This causes the charge of discrimination to collapse.

The board has concluded that our present rates are as fair and equitable as it is possible to make them, and particularly when so large an interest burden rests upon the department, forcing a rather high rate that to apply as a flat rate of so much a gallon to all consumption would be prohibitory to our large business interests and the establishment of new ones, and would be like killing the goose that laid the golden egg.

Yours truly,

L. N. CASE,

Manager Water and Light Commission,
Duluth, Minn.

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CHANGE OF ADDRESS

Subscribers are requested to notify us of changes of address,
giving both old and new addresses.

Contributions suitable for this paper, either in the form of
special articles or of letters discussing municipal matters, are
invited and paid for.

Subscribers desiring information concerning municipal matters
are requested to call upon MUNICIPAL JOURNAL AND ENGI-
NEER, which has unusual facilities for furnishing the same, and
will do so gladly and without cost.

MARCH 22, 1911.

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Commission Government in the Far West

Municipal voting with some unusual features took place in two Western cities last week. In Los Angeles amendments to the city charter were adopted which gave it the power to operate quarries, or plants for making or transporting any materials required in constructing or repairing public buildings or improvements; to supply the citizens with any means of heat, illumination, power or refrigeration, selling any surplus light, power, etc., to other municipalities or non-citizens. It may also own and operate any means of conveying passengers or freight by land or water (air is not mentioned) either within or without the city; also elevators, warehouses, tunnels and viaducts. A Board of Public Utilities is created with power to investigate public service corporations and establish rates subject to approval of Council. An unusual provision for a charter is one limiting to 150 feet the height of all structures except public buildings, monuments, and the spires, etc., of houses of public worship. In the election of public officers every candidate is to be put up by petition, all names being voted on at a primary election. The names of the two receiving the highest number of votes for each office will

be placed upon the regular ballot; but if any candidate receives a majority of the votes he will be considered elected without further balloting. At the final election there will therefore be but two names to vote on for each position. The fact that certain offices may be filled at the primary election is expected to give this sufficient importance to induce the great bulk of the voters to take part in it.

On March 14 five commissioners, elected on March 7, succeeded a Mayor and ten Councilmen as the governing body of Spokane, Wash. At this election women voted for the first time in that city. The new charter, which provides for commission government, contains a few unusual features, that most so being the provisions for electing the commissioners. The manner of doing this is as follows:

Twenty-five electors may nominate a candidate by taking an oath that he is a qualified and a desirable man and that they desire to vote for him. The ballot contains the names of all the candidates in alphabetical order, followed by spaces marked for first, second and third choice. The voters mark 15 crosses on the ballot, voting for five men as first choice, five others as second choice and five as third choice. However, they may vote for third choice the entire list after eliminating first and second choice.

The majority of all votes cast elects on the first choice. Then the votes for the candidates who are unsuccessful in the first choice column and are in the second choice column, are counted to select the rest. If five candidates having a majority of first and second choice votes are not elected, the votes of the third choice are counted with the stragglers of the other two and the third choice selections fill out the five. The third choice men are elected by a simple majority.

The Spokane plan varies from all others by making the contest a free-for-all and not designating the office sought. It provides that candidates must not spend more than \$250 during the campaign, also making it compulsory to submit an itemized statement of expenditures, and no paid workers, carriages or other conveyances are permitted on election day.

Party lines are absolutely obliterated and personalities are eliminated. The candidate must take an oath that he represents no political party in the election nor any special interests.

There were 97 candidates at the beginning of the recent campaign. Three declined to make the race and two withdrew just before the election.

New York Health Bulletin

The Health Department of the city of New York has begun publishing a monthly bulletin along the general lines of those issued by most of the states. The first of these has been issued within the past week or two and contains several very interesting articles, one of these giving statistics concerning the health and death rates of the city for the past 43 years; others describing the child welfare exhibit and the operations of the Sanitary Bureau during the past two years; and the report concludes with a directory of the department, giving the locations of the offices in the several boroughs, of the laboratories, tuberculosis clinics and those for eye diseases, the hospitals, etc.

The editor state that "the *Bulletin* will contain, in addition to statistical summaries, articles dealing with special phases of the city's health, a record of the more important of the department's activities, and such other items of timely interest as may furnish to each citizen information of value regarding the health and welfare of the community."

The department has issued a notice under date of March 15 stating that so many requests have been received for this first issue of the *Bulletin* that it will be impossible to comply with all of them, but that a regular mailing list is being established and that it is possible that another edition of the January number will be printed in order to meet all requests for it. Those who desire to have their names placed upon this mailing list can probably do so by addressing the Editor, *Bulletin* of the Department of Health, Fifty-fifth Street and Sixth Avenue, New York City.

NEWS OF THE MUNICIPALITIES

Current Subjects of General Interest, Under Consideration by City Councils and Department Heads—Streets
Water Works, Lighting and Sanitary Matters—Fire and Police Items—Government and Finance

ROADS AND PAVEMENTS

City Has Right to Order Use of Patent Pavement

Indianapolis, Ind.—The Supreme Court has held that a City Council has a right to order a street paved with a patent pavement where the owner of the patent signs a written waiver of his rights under the patent upon the payment of a specified royalty on each square yard of pavement which may be laid under any contract awarded for the pavement, and where the owners of the property fronting the street have petitioned for the improvement of the street with the patented pavement.

The case arose from the order of the city of Indianapolis to pave Senate Avenue with bitulithic pavement, the contractor to pay the holder of the patent a royalty of 25 cents on every square yard of pavement laid, there being a petition by the majority of the resident property holders to use that kind of pavement. It was contended that the pavement used was only a common macadam and coal tar pavement and that the granting of the royalty tended to promote a monopoly. The Court holds that as long as the offer of the holder of the patent is so definite that he cannot use dictation, but merely receives a royalty for each square yard, and the resident property owners desire to accept the paving on those terms, there is in no sense a monopoly, the contract is valid and there was nothing showing the letters patent on the pavement were not legal letters patent from the United States and such that the city could consider them valid.

Paving Companies to Hustle for Signatures

Portland, Ore.—Any paving company which shall secure the largest number of signatures of property owners to its petition will be given the contract for paving all the streets in Sellwood. This is the decision of the Sellwood Commercial Club. W. C. Adams, of the paving committee, recommended the laying of bitulithic pavement, declaring he believed it the best to be had for the money. Those who favored hassam and asphalt paving disagreed with him and a heated discussion followed. The final decision was that each paving company shall circulate petitions among the property owners and the one securing the largest number of signatures shall be given the work. For the next two weeks there will be a scramble among paving companies for signers. The entire Sellwood district is to be paved.

Recommends Municipal Paving

Milwaukee, Wis.—The advantages of having the city do its own street improvement work as contemplated by the administration are pointed out by C. A. Mullen, Superintendent of Street Construction and Repair, in a special communication to the Council for consideration by the Committee on Streets and Alleys. In addition to effecting a saving of about \$250,000 annually, Supt. Mullen states that better streets will be the result. From the communication it is learned that practically no other but bituminous pavements will be laid in the future. This includes asphalt and the Milwaukee type which is similar to bitulithic. Block pavements, such as sandstone, granite, creosoted wood and vitrified brick materials, probably will be rarely used on the streets.

Will Test Oil and Calcium Chloride Sprinkling

Waukesha, Wis.—The Board of Public Works offered a resolution at a meeting of the Common Council which was adopted giving it the power to purchase 1,500 gallons of oil and three tons of calcium chloride. It is the intention of the board to use the substance for street sprinkling purposes as an experiment and the one that proves to be more beneficial than the other will be used hereafter, providing it proves itself to be superior and less expensive than water. It was stated by the city engineer that oil or calcium chloride will be used but once every two weeks.

Boulevard to Connect Leavenworth and Kansas City

Leavenworth, Kan.—A bill providing for the construction of a magnificent driveway from Leavenworth to Kansas City was put through the House by Representative Thomas, of Wyandotte County, and the bill has now received the Governor's signature.

Senator Stillings is entitled to the credit for this accomplishment. It means a beautiful macadam driveway 36 feet wide connecting the two cities. The inclines will be paved with brick and the curbing will all be of the big brick blocks such as are used on Fourth Street. The right of way is almost all arranged for. The work will commence at Lansing and the road will be pushed south a short distance and thence east directly to the bluffs where it will continue along the cliffs to Kansas City, Kan., connecting there with the new boulevard being laid out in that city. The people of Leavenworth will not at first realize the importance of this boulevard, but when it is once accomplished they will be astonished to see what they have gained.

Fine Driveways Will Soon Be Under Way

Leavenworth, Kan.—The long heralded improvement of Metropolitan Avenue, which has been proposed by the Department of Justice for the past two years, now appears to be near realization, as Warden McClaughry has received authority to begin work just as soon as it is possible to get everything in shape and start it. This authority and the plans for the work have been received from Washington. According to the plans the work when completed will furnish Leavenworth with the best styles of driveways to be found in the West and will prove of great benefit to owners of automobiles, affording them a drive which cannot be surpassed in beauty of scenery and road bed anywhere in the country. It is not decided what the driveways and new roads shall be made of, but it is believed that oiled macadam will be used, similar to that on Grant Avenue at the fort. Stone curbing will be used along both sides of Metropolitan Avenue. It is planned to do the work with the prisoners of both civil and military prisons. It will take at least two years to complete the work as outlined by the Department. The cost is expected to be \$50,000 at the least.

Cost of Street Work Decreases

Louisville, Ky.—The Board of Public Works has issued a comparative statement showing the steady decline during the years 1908, 1909, 1910 and 1911 in the cost of constructing granitoid sidewalks, vitrified block alleys, vitrified block streets and asphalt streets. The following are the 1911 prices per square yard and the decrease in price since 1908: Granitoid sidewalks \$0.92, decrease \$0.04; vitrified block in alleys \$1.56, decrease \$0.0625; vitrified block streets, reconstruction, \$1.575, decrease \$0.04; asphalt reconstruction, including foundation, \$1.7566, decrease \$0.0934; asphalt resurfaced \$0.93, decrease \$0.24.

Seek Aid for a Boulevard

St. Paul, Minn.—Aid from the State is being asked for building a lake shore boulevard 85 miles long from Port Arthur, Canada, to Duluth. Chris Murphy, county auditor of Lake County, was at the capitol last week in conference with G. W. Cooley, State Engineer. Plans have been made to co-operate with the Canadian authorities to make the boulevard one of the attractions of the State. There now is a State road laid out along the shore on which considerable work has been done. This road is cut from the rock along the shore in many places and the cost of construction is rather high. Mr. Murphy says the counties along the lake are ready to contribute a good deal of money toward the construction of the road and wants \$2,400 from the State, the limit to any one county under the present law of the highway commission. There are many demands for money, however, and it is doubtful if the full amount can be given Lake County. The matter will come up before the highway commission at its next meeting.

SEWERAGE AND SANITATION

Analyses of Water and Milk Disclose Good Conditions

Binghamton, N. Y.—During the month of February, according to the report filed with Commissioner of Health John E. Bloomer, by Assistant Food Inspector John L. Costello, 72 samples of milk were examined by the City Bacteriologist. These samples were taken indiscriminately, and with the exception of six they were under the maximum bacterial count allowed by the department. Of these six the highest was 402,000. The large majority of samples showed traces of sediment in the milk, some revealing sediment in large particles. Health Officer D. S. Burr has received a report from the City Bacteriologist showing that an examination of the raw and filtered water used by the city from samples taken March 6 showed an excellent quality of water. Sewage bacteria could not be found in either the raw or filtered water and the efficiency of the plant is rated at 97 per cent. Usually at this season of the year traces of sewage bacteria are plainly discernible in the raw water.

City Faces Damage Suits

Spokane, Wash.—Union Park citizens are up in arms against the city because of flood waters which have inundated property in the district. Claiming that the city "maliciously and with the sole purpose of safeguarding the city against damage suits," constructed culverts across the streets, citizens of the flooded section say that damage suits aggregating \$150,000 will be instituted against the city. It is claimed that the action of the city has resulted in great destruction of property. The city has expended \$10,000 in constructing these culverts across many of the streets. They are excavated four feet deep and 10 feet wide, walled in with stone and covered with heavy timbers at the level of the street grade, but they do not give any protection, it is claimed by the citizens of Union Park, and are inadequate to take the place of the natural drainage canal which has been filled up by the city.

Health Board Desires Laboratory for Tests of Food

Perth Amboy, N. J.—In connection with the efficient work of the present Board of Health several things have been suggested and thought of by the different members to add still more to the effectiveness of that body. One of the matters which has caused some informal discussion is the question of the desirability of a laboratory in connection with the work of the local board. This matter has been spoken of particularly in reference to the work of the milk and food committee. At present all this committee can do is to insure the sanitation of the surroundings under which the milk is produced. It has no means for testing the purity of the milk. There is also no means to test the purity of the food, the presence of disease germs, etc., and the multitude of similar phases which come up in the work of a Board of Health. It is possible that in a short time the local Board of Health will have a chemist installed in a suitable laboratory in the department's headquarters on the third floor of the City Hall.

Inspection of Eating Houses Leads to Improvement

Jacksonville, Fla.—The system of restaurant inspection inaugurated by the Board of Health is meeting with the co-operation of hotel and restaurant proprietors who evince their willingness to make needed improvements and take pride in raising their scores, which are published periodically in the local papers. In all 163 places have been scored during the past month. The total increase in the average score since the inspections were begun last September is 22.1 per cent, a marked improvement.

New Decatur's Sewer System

Decatur, Ala.—McPoland & O'Gara have just finished fourteen miles of sewer for New Decatur. This practically completes New Decatur's new sewerage system, and the total cost will be up in the hundred of thousands of dollars. A few minor contracts for sewerage are yet to be let, but the job is practically finished. This, it is said, gives New Decatur one of the best sewerage systems of any town of like size in the country.

Texas Sanitary Code Passed

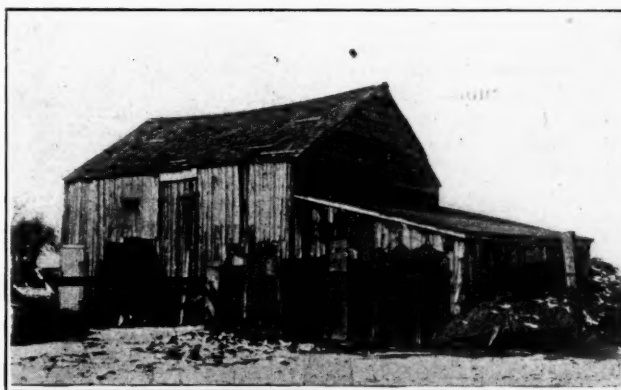
Austin, Tex.—The bill to enact into law the sanitary code bill for Texas has been passed by the Legislature. The measure will no doubt receive the signature of the Governor and become a law. It was prepared by the Attorney-General's Department under the direction of the State Board of Health.

When this new measure has received the Governor's signature affairs will take a different turn. The sanitary code which now becomes law provides for the protection and the promotion of the public health and for the general amelioration of sanitary and hygienic conditions within this State, for the suppression and prevention of infectious and contagious diseases and for the proper enforcement of quarantine, isolation and control of such diseases. It embodies all regulations relative to procuring and tabulating vital statistics.

The State Health Department will at once make earnest efforts to procure practically complete returns showing births and deaths. It is highly probable that Texas will soon attain the enviable distinction of being the only Southern State whose vital and mortuary statistics are accepted by the Federal Bureau at Washington.

Unofficial Dairies Within City Limits

Newark, N. J.—The Newark News has been investigating the subject of dairies within the city limits, and has found that unsanitary dairies exist which are not recorded as dairies on the books of the Board of Health. They are there designated simply as permits to keep cows. Where



Courtesy of Newark News.

UNLICENSED DAIRY, SHOWING UNSANITARY CONDITIONS

a man keeps from 10 to 30 cows it is inferred, however, that then the milk is produced for sale. Rather curiously, the investigator was in nearly all instances shown about the premises by the proprietor, who evidently took pride in his possessions. The unsanitary conditions apparently were purely the result of ignorance.

Food to Be Under Cover

Boston, Mass.—All dealers exposing meat, fish, vegetables and other articles of food will in the future be required to obey the law and keep their stock under cover, according to the information which comes from the Board of Health. This regulation was made more than a year ago, but has not up to the present time been thoroughly enforced. It will do away with the array of meat that may be seen hanging in the open air outside of hundreds of market stalls in the market district and elsewhere. In order for dealers to hang meat outside their stores in the future they will have to place the exhibit in glass cases. The Health Board maintains that the exposing of meat, berries, vegetables, etc., in the open air for hours at a time leaves the stock open to infection by all kinds of germs.

Chlorination System for Seaside Disposal Plant

Ocean City, N. J.—Along the line of improved sanitary conditions for Ocean City is the sewer-disposal plant to be installed by the Ocean City Sewer Company, the plans for which will be filed with the State Board of Health for approval. The plans are being supervised by Prof. Phelps, a consulting sanitary engineer of Boston and New York, whose system of chlorination, said to be the best known, is to be adopted here.

WATER SUPPLY

Eugene Water Filter Put Into Commission

Eugene, Ore.—The new water filter has been placed in operation and the machinery worked very satisfactorily to the city officials. W. H. Howell, superintendent of the plant at Oregon City, was here to start the machinery. It will not be necessary to boil the drinking water here, say the authorities.

City Cannot Regulate Water Company

Bluefield, W. Va.—The city is without authority to enforce rules or ordinances for the regulation affecting the property rights or the conduct of the business of the Bluefield Water Works & Improvement Company, according to a decision handed down by the Supreme Court in a case in which the water company is plaintiff and the city defendant. The opinion was written by Judge Poffenbarger and the action of the Circuit Court of Mercer County in dissolving the temporary injunction awarded against the city officials was reversed, and decrees entered for plaintiff. In short the higher tribunal holds that the city is without authority to regulate the water company because such powers are not delegated to it by the special act of the Legislature granting the city a charter.

Best Monthly Report of Cincinnati Water Works

Cincinnati, O.—Cincinnati's filtered water averaged 99.94 per cent pure for the month of February, according to the report of the filtration plant. This is the best showing the plant has made. The average number of bacteria in the raw river water was 15,500 to the cubic centimeter, which was reduced to the average of 10 in the filtered water. The highest number of bacteria in the raw water found was 34,000 to the cubic centimeter and on the lowest day the number was 3,800 to the cubic centimeter. The highest number of bacteria found in the filtered water was 36 and the lowest number one.

Water Softening Plant Near Completion

Daytona, Fla.—Work on the Daytona concrete water softening plant is progressing satisfactorily, and it is expected to be in operation within the next 30 days.

Gain in Earnings of Water Department

Lestershire, N. Y.—Reviewing and accepting reports of the Village Treasurer and the Water Department was the business at a recent meeting of the Board of Trustees. In point of money expended and balance on hand the Village Treasurer's report was one of the most satisfactory in many years. It showed that there had been a great saving of public funds during the past year, notwithstanding the many improvements that were made during the administration. The report of Superintendent W. D. Smith of the Water Department showed a marked gain in the earnings of this department, which reflects credit on the conservative manner in which affairs of the department have been handled during the past year.

Lockport Water Works Show Profit

Lockport, N. Y.—The annual report of Charles G. Peterson, Superintendent of the water works, has been given out and shows a net profit to the city on the year of \$10,660. The gross receipts were \$54,164. This is a gradual increase from an average total of about \$20,000 up to the time Mr. Peterson took office, seven years ago. The report contains an interesting discussion on the cost of pumping water and delivering it to the consumer, the estimate being \$.03457 per 1,000 gallons at the present rate of pumpage, namely, 5,000,000 gallons per day. The report shows that only 37 leaks occurred in the new pipeline last year. In 1909 there were over 700 leaks. Superintendent Peterson recommends the cleaning of all the old mains in the city and the construction of six-inch mains on important streets where four-inch mains are now in use.

City Refuses to Make Low Rate and Loses Customer

New Castle, Ind.—Because the City Council refused to grant it a lower rate for city water than it gave the other large consumers, the railroad company will sever its connection with the city as a water patron and install a private plant for supplying its engines with water.

Rights of Water Company Superior to Those of Oil Well Drillers

Butler, Pa.—That the rights of a water company to obtain its supply for centers of population by constructing storage dams along streams are paramount to the rights of owners of property on the watershed supplying the streams to drill and operate oil wells if the salt water discharged from the wells pollutes the water was the decision of Judge George S. Criswell, of Venango County, filed here last week, in the case of T. H. Henratty et al. vs. the Butler Water Company. Henratty and other oil producers in the Oakland and Center township oil fields, representing oil property worth \$100,000, sought an injunction against the Butler Water Company, restraining the corporation from building a large reservoir in the Connoquenessing Valley at Oneida, five miles north of here, on the ground that, according to the decisions of the courts, they would be compelled to abandon their properties, entailing a total loss, because salt water, which these hundred-foot wells discharge in large quantities in daily operation, has been declared a source of pollution. The oil men set forth that they could not operate the wells and prevent the salt water from flowing into the streams, and hence their rights to develop their properties and carrying the operations on such properties were interfered with. The oil producers give notice they will carry the case to the higher courts.

Increase of Typhoid Follows Disuse of Chemicals

Niagara Falls, N. Y.—Because of the increase in the number of typhoid cases in all cities along the great lakes, Health Officer Robert Talbot has issued a warning to citizens to boil all water used for drinking, washing vegetables, cooking and even cleaning teeth. "I deem it absolutely necessary to boil the water before using it, as neither the city nor the private water company is using chemicals of any kind to purify it," declared Dr. Talbot. J. H. Macbeth, superintendent of the Western New York Water Company, said no tests had recently been made of the water being supplied by the company. Hypochlorite of lime had not been used for some time, as the city had ordered the use of the chemical discontinued, he said.

Improvement in Ogden's Water Supply System Under Way

Ogden, Utah.—Work on the new city conduit to connect the reservoirs with the waters of Cold Water canyon has been commenced by the J. P. O'Neill Construction Company, a large force of men being in readiness to push the work to completion. The conduit will include about two miles of 24-inch steel pipe and about three-quarters of a mile of 36-inch wooden stave pipe. The rock work will consist of three tunnels, each of which will be about four feet wide and six feet in height, to permit the easy handling of the pipe and to furnish space necessary for the inspection of the conduit. The conduit will cost \$67,463.17, according to the contract signed by the city and the construction company which secured the job.

Municipal Water Plant Pays Well

San Antonio, Tex.—By figures in the annual report of the water company it is shown that the company made a total net profit during 1910 of \$119,763.82, of which \$67,761.60 was put back into the business in the shape of new extensions and materials, leaving a real net profit of \$52,002.22. The report shows that the average charge for water during the year has been 14 cents per 1,000 gallons.

Pure Water a Valuable Asset

Saginaw, Mich.—That a pure water supply for the city would be one of the greatest assets that Saginaw could secure for its health, welfare and upbuilding, is the declaration of Mrs. Caroline Bartlett Crane. Mrs. Crane, whose investigation of the water question has been extensive and covers many cities, is a great believer in pure water. She is also a thorough believer in filtration as a means for purifying the water supplies of cities. Mrs. Crane said she had made an investigation of this city recently and had pointed out perilous conditions caused by poor sanitation, but that they had not been remedied. Epidemics, she added, give cities a black eye and result in great damage aside from the loss of life.

Annual Report of Water Company Gives Satisfaction

Louisville, Ky.—Inasmuch as the annual report of the Louisville Water Company, just issued, for the year 1910, is the first annual report issued from the new home of the water company, especial attention is called by President Charles Grainger to the fact the splendidly arranged and superbly equipped office building enabled the company to serve the public with unusual speed and accuracy, and the many expressions of delight on the part of the public were a source of satisfaction to the company. Also, for the first time in its history, the announcement is made that the company owes no floating debt. On Feb. 6, 1911, the last obligation of that character was paid, and there remained on hand approximately the sum of \$86,000. No floating debt has since accrued. The report shows a reduction in operating expenses of \$280.24, and an increase in the net earnings of \$40,106.36 over the year 1909. The average amount of filtered water furnished the citizens of Louisville each day was 22,130,917 gallons. The operation of the filtration plant is announced as a perfect success and of incalculable benefit to the public.

Reduction in Water Rates

Naugatuck, Conn.—The Naugatuck Water Company has made a voluntary cut in its service rates. A score of years ago, when the company was organized, a rule was made that no service should be installed for a rental less than \$6. For several years the company has charged \$5 in many cases when a property owner had services in double or tenement houses. This was a sort of minimum rate, providing for a service of only one sink or its equivalent, as extra charges were made for bath rooms, bowls and toilets. Secretary E. C. Barnum for some time has been of the opinion that it was an injustice for one family to pay \$6 for a service for which another family paid but \$5, and he recently persuaded the directors to cut the rates to the uniform charge of \$5 for each sink, or its equivalent. The voluntary action of the company will mean a loss of between \$500 and \$600 a year to it, and a corresponding amount of money in the pockets of the property owners.

Separation of Water Works Accounts from Other Departments

Salt Lake City, Utah.—For the purpose of settling the conflict that has heretofore existed between the city water works and treasury departments over accounts, the City Council in special session last week unanimously passed an ordinance recommended by the water works committee, providing a new system in the keeping of accounts for the assessment and collection of water rates of the city. Under the provisions of the new ordinance a deputy assessor of water rates is to be appointed by the Mayor, subject to the approval of the Council, at an annual salary of \$1,500. He will be required to give a bond of \$5,000 in pledge of the faithful performance of his duties. The ordinance also provides for the appointment of an inspector of water and meter assessments, at a yearly salary of \$1,080. An appropriation not to exceed \$1,000 was authorized for the installation of the new system. The new system centers the responsibility in one department.

Schenectady Water Works Plans

Schenectady, N. Y.—In spite of frequent conferences the question of water works improvements is still undecided. Emil Knichling, Consulting Engineer, who made plans for a reservoir that would give increased pressure, recently explained at a public hearing further details of his plans. At another conference Charles A. Hague, Consulting Engineer, appeared for those who opposed the new reservoir. He termed the reservoir plan a luxury, and said that a standpipe of 2,600,000 gallons capacity would meet the needs of the city for the next forty years. Mr. Hague said the electrically operated centrifugal pumping system now installed is an engineering freak. In the meantime the Schenectady Illuminating Company have complained to the Mayor and Council because they have not been paid for installing the plant or even for the current used. They claim that the fault of the system is in the standpipe and certain pressure-reducing valves. The standpipe is not high enough to supply certain sections of the city. To correct this trouble check valves operating at 85 pounds have been placed at the standpipe and the pressure in the mains kept at 95 pounds.

STREET LIGHTING AND POWER**Underground Wire System Is Favored**

Hoboken, N. J.—That the city seems in earnest in its desire to have the overhead wires removed seems evident from the text of a resolution passed at the Council meeting last week. This resolution calls upon the Corporation Attorney for an opinion as to what method of procedure will be necessary to compel the placing of all wires in the city underground. The resolution was introduced by Councilmen Belloff, Delaney and Volk, and was passed unanimously.

Municipal Control of Power Is Favored

Los Angeles, Cal.—Los Angeles will distribute its own electric power generated by the Owens River aqueduct. This was emphatically decided at the recent charter amendment election, when a straw vote on the question of whether the city should distribute the power or sell it to private parties or corporations, to be redistributed, was taken, resulted in an overwhelming declaration for the first proposal.

Olyphant Light Plant Again Shows Profit

Olyphant, Pa.—Continued good service for Olyphant from its electric light plant is shown by the annual report of the board of agents for the fiscal year which closed Nov. 30. This report has just been made public, and shows that with the exception of 16 hours and 10 minutes the commercial lines of the plant saw continuous service. Blowouts and short circuits caused the only delays. Arc lamps were out of service but one hour and 45 minutes. This was caused Feb. 5, 1910, by a broken circuit in the Third Ward school. The total free lighting list amounts to \$3,863.76. During the year \$5,275.33 was spent for new equipment, such as meters, lamps, extensions, etc. The net profit for the year was \$7,364.94, which is a slight increase over the profits realized the previous year.

Municipal Light Plant Earns Ten Per Cent

Pasadena, Cal.—Manager C. W. Komer, of the municipal electric light plant, in submitting a report covering period July 1, 1910, to Jan. 1, 1911, says in part: "Further analysis reveals the fact that the net receipts for the period amount to the rate of 10 per cent per annum on the total investment in the plant. The above period will give approximately average results for the entire year and proves beyond any doubt that with the continued and increased patronage of the owners of the plant, the citizens of Pasadena, there is no question or doubt concerning the perpetuation of the low base rate of 5 cents per kilowatt hour. The average number of consumers for the period was 3,273, as against 1,420 for last year. We have installed 4,142 services—that is to say, we would have had 4,142 customers if we had had no cut backs from original services. There are now 487 service connections not in use; however, we have used the meters at other places, allowing the services to remain. With the total number of consumers brought up to 4,000 or 4,200 it will be possible to improve the net results. The continued success of this department is assured with the continued patronage of its owners.

Municipal Electric Plant Completed

Eugene, Ore.—The formal beginning of operations at the Eugene municipal electric plant at Walterville, on the McKenzie River, took place last week, and the members of the City Council and a large number of citizens inspected the plant. The plant has been built at a cost of \$300,000 and has been in course of erection for two years or more. It will supply power for the operation of the pumps at the municipal water plant and will furnish light for the streets. Later the Council plans to do a commercial business.

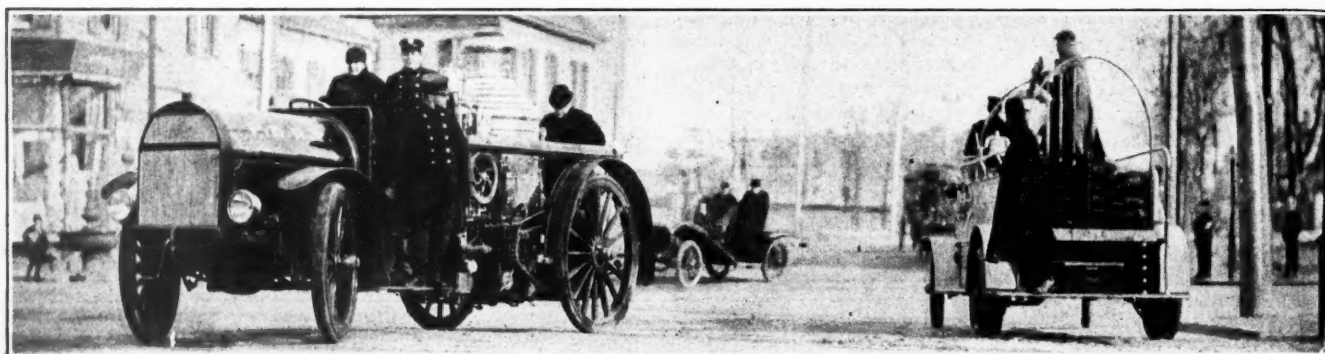
Report of Ilion Lighting Commission

Ilion, N. Y.—The report of the Ilion Municipal Lighting Commission for the year ending Feb. 25 has been issued. It shows that there are 613 meters in service, the number worn out and obsolete during the last five years being 69. The total cost of the meters was \$8,602.40. A credit of \$142 was obtained from the sale of junk meters. There were 102 meters installed during the year, the cost being \$1,081.20. The meter readings for the year were \$15,923.64, and there was paid in cash \$14,738.56, the discount amounting to \$986.42.

FIRE AND POLICE

Auto Steam Fire Engine Tested

New York, N. Y.—An official test of the new auto steam fire engine for speed and capacity took place in New York, March 16, in the presence of Commissioner Waldo, Chief Croker and other city officials and invited guests including the chiefs of fire departments of large cities who came from long distances and many chiefs of smaller cities nearby. Besides the engine there were assembled in front of the Fire Department repair shops, where the tests were



NEW MOTOR STEAM FIRE ENGINE AND MOTOR HOSE WAGON—NEW YORK FIRE DEPARTMENT

held, the Couple Gear auto water-tower and three Webb auto hose wagons designed for high pressure service. The Nott engine developed a capacity of 751 gallons a minute for ten minutes and was driven over twenty miles in one hour over city streets under ordinary service conditions. The accompanying illustration was taken at Jamaica, L. I., where the apparatus was driven during the test.

Police Purchase Automobile with Private Funds

Superior, Wis.—The Police Department has arranged for the purchase of a big touring car and the order for the machine has been sent into the factory at Luverne, Minn., by Lieut. Darwin D. Scoon, who is agent for the Luverne machine for Superior and Duluth. The new auto is a \$2,500 car, but it is understood that the police are purchasing it at a bargain price. The money has been raised in various ways, and does not come out of municipal appropriations. Most of the price was obtained last winter when the department was given a percentage of a stock company show at the Grand.

Police Begin Crusade Against Beggars

Lexington, Ky.—A crusade against beggars on the streets of the city is to be inaugurated by the Police Department, which will see that in the future all vagrants will be given a chance to support themselves by work or otherwise be sent to the county infirmary. This action was announced last week by the police and came as the result of a number of beggars being brought into Police Court recently on charges of vagrancy.

Auto Engine Proves Worth

Paterson, N. J.—Just what an automobile fire engine can do and how valuable one is to the city and its property owners was shown last week when No. 10, the city's new purchase, by making a run of over a mile and a quarter in five minutes, put out the fire in John Hartley's poultry houses and saved a row of dwelling houses from destruction. In addition to making a quick run the machine forced water through 700 feet of hose and delivered it in such a volume that the work of fire fighting was made easy.

New High-Pressure Area in New York

New York, N. Y.—An extension of the high-pressure fire service on the lower East Side is now in operation by an order issued by the Fire Commissioner. The area thus added to the high-pressure field is bounded by Chambers and Houston streets, the Bowery and the East River. It is the most dangerous fire zone in the world because it is filled with tall un-fireproofed tenements in which live many hundred thousands. High-pressure hose carts will be put in the district, and it is planned to supplement all horse apparatus there with automobile vehicles.

To Have Juvenile Police

Cincinnati, O.—At the instance of Councilman Mullen the Board will experiment with juvenile police at Lytle Park. Mr. Mullen said that boys damaged trees and shrubs in the park, and he thought boy police could do more to prevent this destruction than anyone else. He offered to pay the salary of a boy for the first year as an experiment. The Board decided to give the idea a trial, and instructed Secretary Longenecker to appoint a boy named Norris, whom Mr. Mullen recommended. The experiment will be watched with great interest and it is probable that the plan will be adopted in other cities.

Signal System Wanted

Salt Lake City, Utah.—Chief of Police S. M. Barlow has recommended to the City Council that a signal system be installed at police headquarters. There are fully a score of systems in use in various parts of the United States and thus far only two systems have been put into operation at police headquarters. These include the signaphone, which includes a light and semaphore for the calling of a policeman, which is regarded as the most up-to-date, and the old system of the Dean Electric Company. The systems of the rival companies are now under demonstration at police headquarters and members of the City Council have made various inspections. Though the signaphone system seems favorable because of its up-to-date methods it is probable that the police and prison committee will desire to take a trip to Denver and inspect its system before making any recommendations. Chief of Police Barlow is in favor of installing the most up-to-date system or none at all.

Searchlights Added to Fire Equipment

Grand Rapids, Mich.—With the addition of powerful acetylene searchlights on the heavy fire trucks the Grand Rapids Fire Department is now equipped on a footing and equality with Chicago and the great centers of population throughout the country. Darkness will not baffle the firemen, who, with the aid of the powerful 10-inch reflectors, will be able to flash lights down alleys, in dark corners and on danger points where firemen may be obliged to go, or to aid in locating any point within their radius. The big lamps are the workmanship of Master Mechanic Frank F. Hill, with the exception of the reflector portion. The acetylene manufacturing tank and all piping running to the lights are the work of Mr. Hill, and represent a great saving to the city. With the new equipment of lights, fire department officials expect to increase the efficiency of the department. In the past lights used on the trucks have been so dim that drivers have been unable to make speed, for fear of running down pedestrians or rigs in the darkness.

Automobile Fire Apparatus for Macon

Macon, Ga.—Work on the new fire house on the triangular lot in the rear of Wesleyan College has been resumed, and the construction of the edifice, which will quarter an all-auto apparatus company, is being rapidly pushed by the contractors. The automobile fire-fighting apparatus purchased from the Webb and the LaFrance companies at an expenditure of \$18,500 will arrive in the city in a few weeks. It may be necessary to store the engines and trucks somewhere, as the fire house will hardly be ready for occupancy at that time.

GOVERNMENT AND FINANCE

Plan Savings to Meet New Tax Law

Indianapolis, Ind.—On account of the depleted condition of the city treasury and a wish to save money in anticipation of a reduced tax levy next year under the new law providing a maximum tax levy for general purposes shall not exceed 75 cents on each \$100, the Board of Public Works is considering the question of meeting the cost of paving street and alley intersections this year by a special assessment on real estate. Beginning next year the cost of street sprinkling will likely be met by assessment on abutting property. The law provides this may be done. At present both the cost of street sprinkling and the cost of paving street intersections are met from the general fund.

City Refuses to Release Surety Company

Racine, Wis.—The concrete pier contractors will have to go ahead and complete their work of building the lake shore protection off of Seventh street. This was the decision of the committee on harbor and bridges who met last week to take up the proposition of releasing the surety company back of the contractors. Attorney Walter C. Palmer said the surety company was willing to pay the city \$2,000 to be released from further liability. The city has paid to the contractors an estimate of \$1,200. By the city accepting the proposition of the surety company it would be making \$800, but the officials do not like to do business that way. Merrill, Casson & McMynn, who took over the contract from the Interlocking Concrete Construction Company, furnished the city with a bond of \$26,500 as a guarantee of good work. The new firm started out to put in the work, but met with all kinds of reverses. High seas time and time again tore out all the work the company had put in. Finally the contractors gave up entirely and were forced into bankruptcy. The city was well protected, having a bond standing behind the contractors. The officials do not propose to settle for \$2,000, but prefer to have the bonding company go ahead with the work and put it in according to contract.

Commission Form of Government for Spokane by Court Decision

Spokane, Wash.—Spokane's long fight for the commission form of government is ended. The judges of the Washington State Supreme Court upheld the validity of the Spokane charter, adopted Dec. 27 by popular vote. The decision, rendered by Chief Justice Dunbar, is concurred in by every one of the other seven judges of the court, one seat now being vacant. It effectually knocks out every point raised by former Senator George Turner, late special counsel of the United States Government in the Canadian fisheries dispute, who was employed by opponents of the new form of government to defeat it in the courts.

The decision knocks out the last prop of the foes of the commission form of government in the State of Washington. It establishes the validity of the Tacoma charter as well as that of Spokane, and makes the commission form of government possible in every city in the State. There can be no appeal from the decision, the highest judicial body to which the matter can be submitted having passed final word.

Legislature Grants New Charter to San Antonio

Austin, Tex.—The bill granting a new charter to San Antonio last week enjoyed final passage in the House. The bill came up during the consideration of a host of local bills and was disposed of in one-half a minute's time.

Election Is Ordered on Bond Issues for Civic Improvements

Berkeley, Cal.—Public interest and the demands of the city for civic improvements were acted on by the City Council at its meeting last week, by the passage of eight resolutions, calling for bond election as to the acquisition and construction of city improvements, aggregating in the total an expenditure of \$940,000. A park in the west end to cost \$30,000 was added to the proposed list, and the matter of a bond election, calling for municipal kindergartens, was left to straw vote of the people in the coming city elections in April. The Council passed resolutions calling for an election early in May to learn the wishes of citizens on the proposed improvements.

To Recall Huron Mayor

Huron, S. D.—Petitions have been filed for the recall of Mayor Koepp and three commissioners of this city. They contain 15 per cent of the voters required by law, but the names of the heavier taxpayers and more prominent business men do not appear on the petitions. The complaint is that taxes have been largely increased, unnecessarily; the commissioners claiming in a published statement that the increase was necessary for the creation of a sinking fund to meet maturing obligations for which no provision had heretofore been made.

Dry City Has No Money for Lights

Everett, Wash.—This city cut its running expenses \$50,677 and as a result must go without street lights and other modern accessories of a prosperous municipality for a year. The reason is the loss of revenue from saloon licenses. The city went "dry" last fall.

Municipal Shows Continue to Interest the Public

Hoboken, N. J.—The Hoboken Budget Exhibit will be held during the last two weeks in April, and it has been definitely decided that the show will be on the third floor of the new Steneck Building on River street.

STREET CLEANING AND REFUSE DISPOSAL

Object to Reduction Plant

Cincinnati, O.—Mayor Schwab has received a letter from the Lower River Road Improvement Association asking him to do all that he legitimately could to prevent the rebuilding and operation of the reduction works at Anderson's Ferry, the property of the Cincinnati Reduction Company, which recently was destroyed by fire. The letter declares the operation of the plant is unfavorable to the development of the lower river villages as resident sections. The letter also says that with Delhi annexed and Sayler Park coming in it is only a question of time when Fernbank, Addyston, North Bend and Cleves will be added to the city. Mayor Schwab referred the letter to the City Solicitor for advice as to the legal status of the matter.

Spring Cleaning Decided on at Everett

Everett, Wash.—The Chamber of Commerce has taken up with the Health Department the question of a spring cleaning campaign in this city. The plague in China and the reported discovery of a case of bubonic plague in Spokane is regarded as sufficient reason for the people to get their premises, as well as the streets and alleys, in the best possible condition before summer opens.

Salt Water for Sprinkling Streets

Salem, Mass.—Salt water will probably be used for sprinkling streets in Salem and Beverly next summer. The water of Wenham Lake is so low that there will probably be none to spare for street sprinkling in the summer time. Mr. Kelley, Superintendent of Streets of Salem, is planning to set up pumps on the shores of the harbor for filling the street sprinkling car. In Beverly similar plans are being made. It is also probable that some of the streets of Salem and Beverly will be oiled next summer. Wenham Lake is about 10 feet lower than it was a year ago. There are scant prospects that the spring rains will fill it to its normal spring level. The water board is still urging people to be as economical as possible in the use of water.

Clean-up Week for Wilkes-Barre

Wilkes-Barre, Pa.—Plans for another clean-up week have been launched at a joint meeting of the Civic Club, Board of Trade and City Council members. This was in the form of a conference at the home of Mrs. C. P. Hunt, on North River street, and was well attended. It was decided that another clean-up week campaign be conducted. Encouraged by the success that attended efforts in that direction last year the movement this year is to be conducted on a much larger scale.

The work will be systematized, the city divided into districts and a definite time set aside for the clean-up of each district. The children will be interested in various ways, and prizes will be distributed to those doing the best work.

RAPID TRANSIT

Proposed Bill Gives Cities Power to Run Street Cars and Light Plants

Harrisburg, Pa.—Two bills were introduced in the Senate last week that give all municipalities the right to purchase or condemn or construct and operate water plants and street railways, electric light plants, gas works and all other public utilities. While the measures are drawn in the interest of Mayor Magee, who wants Pittsburg to gain control of a street railway and a suburban water plant, they give all municipalities a similar right. The bill providing for the acquiring or construction of a water plant contains no other sections, but as in the other bill, which refers to the other public utilities, the municipality is given the right to lease to a corporation or individuals such public utilities and upon such terms as may be agreed upon.

Prospect of Municipal Street Railroads in Dallas

Dallas, Tex.—The bill amending the Dallas charter which has passed the Senate contains the following provisions looking towards the municipal ownership of street railways.

The Board of Commissioners may do the following named things upon its own motion or upon petition or upon an advisory vote of the people:

1. To require any person, firm or corporation holding a franchise from the city to operate its cars over street railway lines which the city may build or acquire, the Board to fix the rentals, after hearing a statement from the franchise holders. It is made the duty of the Board upon petition of 250 voters to submit a proposition to issue certain bonds to construct a street railway extension, but the Board is authorized to make such extension out of revenues.

2. To build, purchase, own and operate street railway lines, full power being given to do the various necessary things in this regard.

Improved Type of Fenders on Cars

South Bend, Ind.—The Chicago, South Bend & Northern Indiana Railway Company is equipping cars on the city lines with fenders in compliance with an ordinance of the Common Council. The ordinance provides that fenders adequate to the needs of traffic in South Bend be fitted to all cars before April 1. A number of cars have been provided with fenders and officials of the company say all cars will be equipped before April 1. The fenders are of a type identical with those used on the surface cars in Chicago. The new safety contrivance includes a standard wheel guard and fender, the operation of which the company believes will make it practically impossible for a body to be mangled under the car wheels. Under the platform of the car and hanging almost flush with the extreme front end is a standard, which when struck automatically and instantly releases a fender placed slightly in the rear. The fender is of a basket type, and when released touches the rails and acts as a scoop, preventing a body from rolling under the car. In addition wheel guards are being placed on all trucks, the protection of which is such, officials of the company declare, it will be scarcely possible for a man's hand to be cut off. The cars are being equipped at the car shops of the railway company as fast as possible. The fenders and other equipment are being manufactured in the local shops. The standard, consisting of an iron framework with wooden strips crossing it, releases the fender.

Boston Elevated Road Planning to Carry Freight

Boston, Mass.—The executive committee of the Boston City Council, Councilor John J. Attridge, presiding, gave a public hearing in the aldermanic chamber last week on the petition of the Boston elevated for the right to become a common carrier of freight on their surface lines.

Trolley Freight in England

Bradford, England.—The Bradford City Tramways have developed a large parcel business and are now collecting and delivering about 14,000 parcels weekly. The capital expenditure at present standing against the business is £2,500, and the annual profits are about £1,700. The parcel service is in charge of a parcel superintendent.

MISCELLANEOUS

Serious Fire Destroys Plant of Light, Heat & Traction Co.

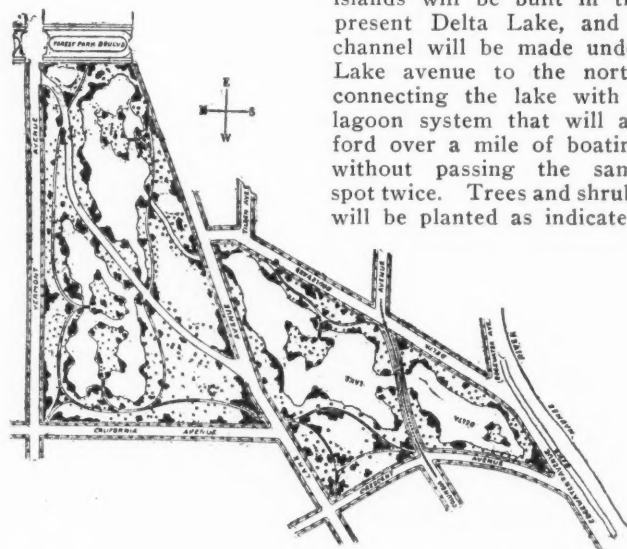
Racine, Wis.—Fire which completely destroyed the power house of the Milwaukee Light, Heat and Traction Company here last week, entailing a loss of over \$140,000, plunged the entire city into total darkness, brought street car and interurban traffic to a complete standstill and will result in the closing down of a number of factories in the city which depend on electricity for motive power. It may be weeks before the street car system will be running.

First Playground in Downtown District

Cincinnati, O.—The first playground to be established in the downtown district from the funds of the recent \$1,000,000 bond issue was arranged for last week by the Park Commission. The playground will be located at McMicken avenue and Walnut street and Link alley, and will comprise about 2,000 square yards. The property is a low-lying piece of land adjoining the small lake in Burnet woods.

Lakeside Park for Fort Wayne

Fort Wayne, Ind.—Superintendent Doswell, of Lindenwood Cemetery, has completed plans for the proposed Lakeside Park, which includes Delta Lake and a recently acquired tract of land north of it. As shown by the outline,



islands will be built in the present Delta Lake, and a channel will be made under Lake avenue to the north, connecting the lake with a lagoon system that will afford over a mile of boating without passing the same spot twice. Trees and shrubs will be planted as indicated.

A macadamized driveway through the park, with concrete arches over the lagoons, will be another feature of the new park. Graveled walks will thread the little resort, with concrete arches connecting them with islands formed by the lagoons.

Artificial Bubbling Spring Constructed in Park

Los Angeles, Cal.—Work has been begun under the direction of the Park Commission on a unique scheme, which will form one of the attractions at Sycamore grove on Pasadena avenue. It is an artificial boiling spring and will be located in the northwest corner of the park. A pumping plant is being installed to pump the water to the northwest corner of the park, where sand, kept in place by a circular stone wall, will be placed and the water forced through it to imitate the natural bubbling or boiling springs found in different parts of the country. The water then will be allowed to escape in a stream, which will be left as nearly like a natural waterway as possible and diverted across the park to the lily pond. Watercress and other natural aquatic plants will be grown along the banks of the stream.

Wish to Preserve Old Bridge

Trenton, N. J.—Moses Taylor Pyne, of Princeton, and other prominent men, are making a fight against the proposed improvement of the bridge over Stony Brook. The bridge was built before the Revolutionary War, and was used by the American army on the way to Princeton. It is as solid as it was 150 years ago, and Mr. Pyne declares it should be left in its original shape as a Colonial landmark.

First Municipal Dredge Starts Operations

Philadelphia, Pa.—The new municipal dredging plant, which was authorized by Councils nearly a year ago, has been completed and has been placed in operation. The powerful outfit of machinery is the only city-controlled plant of the kind in the country, and consists of one hydraulic dredge, representing a cost of \$99,989; a combination scoop and clam-shell dredge, costing \$64,160; tugboats 65 and 80 feet long, built respectively for \$11,425 and \$20,855; two 500-yard scows, three 250-yard scows and a deck scow, aggregating \$37,250. Fifteen pontoons, costing in all \$2,393, complete the equipment, making the total cost \$236,072. The new plant is entirely the idea of Mayor Reyburn, and is probably the most important asset of the Dock Department. Since the institution of the latter the city's dredging bills have gone on apace and the administration now hopes to take care of all the needs of the port, and to present navigation and docking facilities in keeping with the position the city has taken in the shipping world, particularly in the last year.

Plan Campaign to Acquire Property for Civic Center

Toledo, O.—A bond issue of a million dollars for the acquisition of a civic center site extending from Jackson to Cherry streets, and from Erie street to Spielbusch avenue, and for the improvement of the boulevard, is the object toward which a committee of 50, provided for at the meeting of the Business Men's Club, last week, is to direct its attention. The committee is to consist of 10 members from the club, 10 to be appointed by the City Board of Control, 10 from the Central Labor Union, 10 from the Chamber of Commerce, and 10 to be selected by these members. Chairman O. S. Brumback was authorized to appoint from the city at large such members as any of these bodies fail to name within two weeks. Advisability of a civic day for a referendum vote on the bond issue is to be investigated by this committee.

Locomotives Make Half of City's Smoke

Cincinnati, O.—Forty per cent of the total smoke and over one-half the dirt traceable to smoke in Cincinnati is made by the locomotives on the railroads entering the city, declares Smoke Inspector Nelson in a report issued last week. But 15 per cent of the coal shipped into Cincinnati is consumed by the locomotives, so that the percentage of smoke from locomotives is far greater than that from stationary plants burning soft coal. On the basis of 300 working days in the year the locomotives use 1,300 tons of coal daily, the report says, or about 400,000 tons in a year. Approximately 10 per cent of all the soft coal fired in the locomotive firebox is discharged from the stack in the form of cinders, so that within the city limits probably over 100 tons of cinders are dropped from the locomotive stacks every day. Inspector Nelson says that the study made indicates clearly that electrification offers the only final and satisfactory solution of the locomotive smoke problem in the city.

Will Beautify Attleboro

Attleboro, Mass.—The people of Attleboro are rejoicing because of an offer made to the town the past week by Thomas E. McCaffrey, a prominent business man. The gift is 1,000 trees which will be set out on or about Arbor Day by the school children. Mr. McCaffrey made the offer through the school committee and that board accepted with a vote of thanks. In announcing his gift Mr. McCaffrey says he believes it will be an effective way of interesting the coming generation in the care and growth of trees in Attleboro.

Extensive Park Planned for Covington

Covington, Ky.—The Covington Park Board has engaged the services of a local civil engineer and as soon as a plat can be made of the recently acquired immense area of land presented to the city by the Devou brothers the work of transforming the valleys and dales into a beautiful park will be prosecuted vigorously. The members of the Board, which consists of such representative men as Father Brosert, Frank Woodall, Ulie Howard and E. L. Pieck, are enthusiastic over the prospects for a magnificent park, and these citizens are devoting much of their time in devising ways and means of securing the best results with the somewhat limited funds at their disposal.

Dog Pound May Be Established by City

Cincinnati, O.—The establishment of a municipal dog pound is being planned by Mayor Schwab and Safety Director Scott Small. Following a conference with an official of the Ohio Humane Society it was decided to inquire of other cities where the plan already has been put in operation as to its success. The contract for catching the stray dogs of the city is about to be let and the municipal pound will not be put into operation for another year.

Extensive Plans for Beautifying Salt Lake City

Salt Lake City, Utah.—With the passage of house bill No. 231, providing a strongly financed and properly empowered park commission for Salt Lake, which went through without objection in the Lower House, the Utah Legislature will place in the hands of Salt Lake a tool by which a garb of unblemished civic beauty can be created and maintained. So holds the Salt Lake Commercial Club, through whose influence the measure, once killed, was revived and favorably considered, and which, now that it has become a certainty, is planning to back an undertaking to park and boulevard every principal street of the city before the Panama Exposition opens in 1915 at San Francisco. The bill makes this possible. It gives Salt Lake a board of five park commissioners, invested with unhindered power to improve where and when they see fit. They may create parking districts in any part of the city and a two-thirds vote of the property owners will be necessary to gainsay them. By means of a tax of not less than half a mill, or more than two mills, separate from the general city taxes, they will have an annual fund of approximately \$100,000 with which to work; this to be used outside of the special tax property owners will be required to pay to defray the cost of parking in front of their homes or holdings. With such a fund boulevards can be created in every part of the city, public parks can be made veritable paradises of landscape gardening, and the whole general appearance of the city can be changed to delight the eye.

Concrete Bridge Will Be Erected in Preference to Steel

Fort Scott, Kan.—The concrete bridge bill which was passed by the House several days ago has been passed by the Senate. This bill requires that all public officials having charge of letting contracts for culverts and bridges in counties, townships and cities shall prescribe concrete or corrugated iron in preference to steel in all cases where the cost of construction of such concrete or corrugated iron bridge or culvert is not more than 130 per cent of the cost of building such bridge or culvert of steel. The bill prescribes the maximum strength for such concrete bridges and culverts. Brady, of Douglas, secured the passage of another bridge bill. His bill makes counties and townships liable for defects in bridges and highways and enables injured parties to recover damages for neglect to keep roads and bridges in proper repair.

Contractor Claims Lack of Information About Soil Conditions

Detroit, Mich.—Contractor James Hanley, who wants to be relieved of his contract to build that part of the Fairview sewer between Jefferson avenue and the river, set up a contention at a meeting of the Council Committee on Sewers last week that he is not only entitled to be relieved, but that he is entitled to damages from the city, on the ground that he was not properly informed as to the nature of the soil. He said he had lost \$11,000 in building about 1,000 of the 1,700 feet, and that City Engineer McCormick, knowing the soil conditions from having made borings, is responsible for his entering into a losing contract. The committee will hear the case in detail, with attorneys present for both sides, and the testimony will be taken by stenographers.

Puts Ban on Fireworks

South Bend, Ind.—Wholesale dealers handling fireworks will be notified by the police that ordinance No. 1249 regulating the sale of explosives will be enforced in South Bend. The Board of Public Safety authorized the police to see that the ordinance is enforced. Wholesale dealers will be warned at once not to purchase dangerous explosives, and the retail dealers will be given police attention later.

LEGAL NEWS

A Summary and Notes of Recent Decisions—Rulings of Interest to Municipalities

Defects in Streets—Liability of Abutting Owner

City of Omaha v. Philadelphia Mortgage & Trust Co.—If the owner of city lots constructs a building thereon adjacent to a street of the city, and in such construction excavates a large space under the street to be used as a room in connection with said building, and so maintains the same for several years, it will be presumed that such excavation was made with the consent of the authorities of the city, and upon the implied condition that such excavation shall be maintained in proper and safe condition for travel along the street and the walks thereon; and the owner of the property will be liable for damages caused by his neglect to so maintain said excavation.—Supreme Court of Nebraska, 129 N. W. R., 996.

Defective Streets—Contributory Negligence

Reynolds v. City of Centerville.—In an action against a city for damages for injuries caused by a defective road in answer to an inquiry as to whether or not "you consider it dangerous if you were not careful" in crossing with his team the street at the place he did, plaintiff testified "that it was dangerous if a man did not use his best judgment over such a place." Held to show that he appreciated the danger.—Supreme Court of Iowa, 129 N. W. R., 949.

Regulation of Public Places

Sioux City v. Simons Hardware Co.—A city granted to an individual the right to use a part of a street in the construction and support of a proposed building, on condition that he should erect and maintain a conduit of a specified capacity for the waters of a stream. The conduit constructed was of insufficient capacity, and by reason of I-beams therein the flow of the water was obstructed. The conduit, at an expense of from \$4,000 to \$5,000, could be changed so as to take care of the waters of the stream and protect the public against floods. Held, that equity, at the suit of the city, would not order the destruction of the building and the conduit, but would require changes in the conduit, so as to protect the public from floods.—Supreme Court of Iowa, 129 N. W. R., 978.

Streets—Prescription—Payment of Taxes

Lockey v. City of Bozeman.—That a city received taxes levied on land did not estop it to claim the land as part of a street by prescriptive right where the city had nothing to do with assessing the land. A county assessor's act in listing land for taxation cannot operate as an admission against a city claiming the land as part of a street by prescriptive right.—Supreme Court of Montana, 113 P. R., 286.

Excavation in Street—Injury—Negligence

City of Minot et al. v. Walton.—In an action against a city to recover for an injury to plaintiff from falling into an excavation in a street at night, where the controlling issues were whether the excavation was properly guarded and that of contributory negligence, and there was substantial evidence on both in support of the verdict, the case was one for the jury.—S. S. Circuit Court of Appeals, 183 F. R., 768.

Telephone Franchise—Illegal Grant

Tri-State Telephone & Telegraph Co. v. City of Thief River Falls et al.—Where a city without authority granted a telephone franchise for the maintenance and operation of a telephone system along its streets, without advertising for proposals, or competition, as required by its charter, and the grantee of the franchise immediately carried the same into operation by expending money in equipping a plant, the city was not by that fact estopped from later questioning the validity of the franchise.—U. S. Circuit Court, 183 F. R., 854.

Street Railway Track—Nuisance

Zimmerman v. Metropolitan St. Ry. Co.—A city cannot authorize a street railroad to so use a street with its tracks and cars as to materially obstruct the right of ingress and

egress of an abutting owner, thus constituting a private nuisance.—Kansas City Court of Appeals, Missouri, 134 S. W. R., 40.

Right of Appeal from Assessments—Statutes

City of Portland v. Nottingham & Co. et al.—Portland city charter, approved January 23, 1903, provided for appeals to the Circuit Court from city assessments, and that the verdict of the jury there should be final. At that time there was no appeal from orders granting new trials, but Laws 1907 gave the right. Constitution adopted in 1906 provides that corporations may be formed only under general laws, that the Legislature may not amend or repeal any charter, and that the voters of every municipality shall have the power to enact or repeal their charters. Constitution gives the initiative and referendum to the voters of every municipality as to all local, special and municipal legislation. Held, that as the Legislature under the above constitutional provisions could neither amend nor repeal municipal charters, Laws 1907 giving an appeal from an order granting a new trial did not affect the Portland city charter, so that no appeal would lie from an order setting aside the verdict of the jury on an appeal from an assessment under section 401.—Supreme Court of Oregon, 113 P. R., 28.

Regulation of Streets—Irrigation Ditches

Baker City Mut. Irr. Co. v. Baker City et al.—Baker City Charter, as amended, defining the powers of the municipal authorities over streets of the city, does not, either expressly or by necessary implication, authorize the municipal authorities to permit the construction of drainage ditches in any of the streets, and an ordinance granting such a concession is a nullity, and no right is secured thereby.—Supreme Court of Oregon, 113 P. R., 10.

Sidewalks—Injuries—Evidence

City of Louisville v. Uebelhor.—In an action against a city for injuries from stepping into a hole in a sidewalk in August, 1907, evidence as to the measurement of the hole at the time of trial, in October, 1900, and that the hole had not been repaired up to that time, was admissible in evidence in connection with an offer to show that the hole was in the same condition as when the accident occurred.—Court of Appeals of Kentucky, 134 S. W. R., 152.

Park Department—Governmental Functions

Brightwell v. Kansas City.—Revised Statutes, 1899, provides that whenever any city desires to establish a park, etc., the common council, etc., is authorized to purchase or condemn land in such city for that purpose. A section gives the board of park commissioners power to establish, etc., within such park district all boulevards as they may deem proper, and for such purposes gives them jurisdiction over such of the streets as they deem necessary to give convenient access to the parks. The Kansas City Charter and Ordinances 1898 requires the board of park commissioners to adopt a system of public parks, and to designate lands to be appropriated for that purpose, and to select routes for boulevards, and further provides that special assessments for parks and boulevards shall be subject to the same rebate on payment, the same penalties for nonpayment, and shall be enforced in the same manner as general taxes levied by the city. Held, that while a municipal act will be classed as ministerial if it is substantially of a local or corporate nature, though it relates in a general way to a function of government, in levying an assessment for park purposes, the city acted in a governmental capacity, so that it was not liable in damages for the failure of its treasurer to issue a certificate to a purchaser at a sale of property under an assessment levied to maintain parks and boulevards.—Kansas City Court of Appeals, Missouri, 134 S. W. R.

Dangerous Conditions in Parks—Liability

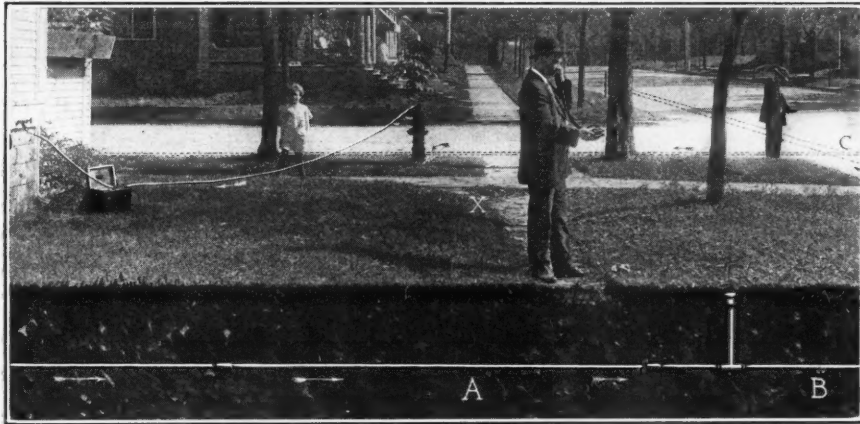
Pennell v. Mayor and Council of Wilmington.—The plaintiff brought an action against the defendant to recover damages for injuries resulting from defective or dangerous conditions in one of the public parks of the City of Wilmington. To the plaintiff's declaration the defendant demurred on the ground that the city is not liable in damages for injuries resulting from defective or dangerous conditions in its public parks. Demurrer overruled.—Superior Court of Delaware, 78 A. R., 915.

MUNICIPAL APPLIANCES

Locator for Underground Pipes

THE Modern Iron Works, Quincy, Ill., manufacture a device used for the purpose of locating underground iron pipes in streets. It is no uncommon experience in water works management for a gang of men to spend a day in

to be adhered to, however, the Clough mixer would have to be classed as a batch mixer because it receives its whole charge at once from a side of the mixer and the concrete is disloader. The loader is attached to a shaft, by which it is raised on one side



LOCATING UNDERGROUND PIPE BY WIRELESS APPARATUS

tearing up pavements and digging for iron pipes which it is necessary to locate exactly. The labor spent in locating one pipe may easily amount to the price of the D. B. M. Pipe Locator, as it is called. The apparatus consists of a battery and a sender or vibrator for producing an electric current through the pipe which is to be located, and a special head telephone receiver and detector coil, constructed to pick up the electric wave produced by the instrument so that it can be distinctly heard in the receiver. In the case shown in the illustration the battery is connected by wires to a convenient hydrant and to a hose connection on the side of a house. The detector coil held in the right hand of the operator in the foreground, is also in the circuit by wires. The electric waves are transmitted without wires from the pipe to receiver.

When the operator is directly over the pipe no sound is heard, the windings of the detector coil having neutralized it. When this point is found, by passing the coil back and forth a few inches, the exact location of the pipe can be easily determined. The proper position for holding the coil to get the above results is flat, with the brass binding post on top. If turned up edgewise when over the pipe the sound is loudest.

The apparatus is mounted in a nicely finished case, equipped with a lock and handle for carrying; the entire equipment is first class in every respect.

Clough Concrete Mixer

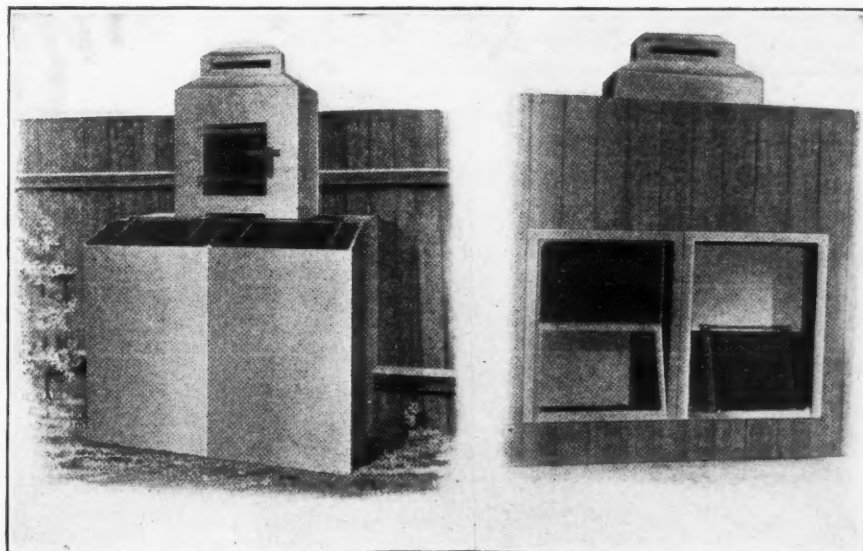
A concrete mixer having some unusual features is made by John G. Clough, Quincy, Ill., who calls it a continuous batch mixer. In general design the machine has the appearance of a continuous mixer and is claimed to have the advantage of portability and adaptability to work in difficult situations which such mixers have. With the improvements in feeding batch mixers and the hoods now generally placed over the end of the trough of a continuous mixer, the distinction between the two types is less distinct than it used to be. If the distinction is

of the mixer and the concrete is discharged from the trough or drum, it is hard to say which to call it, from the other. The mixing is done by revol-



PECULIAR TYPE OF CONCRETE MIXER

ving spring plows, which clean the trough at each discharge. The water is measured automatically for each batch. A gasoline engine supplies the



COMBINATION RECEPTACLE FOR ALL CLASSES OF WASTE

power and the whole apparatus is mounted on a truck with large wheels, the front 20 and the rear 44 inches high. The large-size mixer, capacity 80 to 150 cubic yards per day, weighs 4,500 pounds, is operated by a six-horsepower engine, is 10 feet long and four feet six inches wide. One-quarter of a cubic yard is mixed at a batch.

Drinking Fountains

The J. L. Mott Iron Works, Fifth avenue and Seventeenth street, New York City, manufacture drinking fountains in great variety, many of them of considerable artistic merit, considering the limitations of the material. Some of the designs are surmounted with single lamps, clusters or ornamental figures. The fountains are made to provide drinking water for men, horses and dogs. Every conceivable location in streets or parks seems to be provided for.

Combination Waste Receptacle for Garbage, Ashes and Combustible Rubbish

THE Universal Sanitary Appliance Company, 115 Dearborn street, Chicago, Ill., manufacture a combination waste receptacle, shown in the illustration attached to a fence, ready for use. The outfit consists of three compartments, made of cement and steel. The two lower compartments are for garbage and ashes. The upper one is for combustible rubbish and it can be burned in the receptacle. A grate at the bottom allows the charred material to drop down into the ash receptacle. Each compartment has a drain in the bottom so that it can be flushed out with water. As shown in the alley view, the construction is such that the iron doors are protected by setting back into the concrete, leaving no projections in the alley that might be damaged by wagons. All of the sections are universal and can be used separately.

The same company manufactures a portable concrete receptacle for burning rubbish. It is intended for domestic use, as well as for schools, clubs, hotels, golf courses, baseball parks, etc. The device is simply a concrete cylinder three feet high and two feet in diameter, provided with a grate about six inches from the ground, with an opening for withdrawing ashes from below.

Tiffin Flushing Machine

THE Tiffin flushing machines which have recently been placed on the market are claimed to have some merits not possessed by the original types of flushers. They have a water capacity of 600 gallons and an air capacity of one-third that amount. It is claimed that with an initial pressure of 60 pounds, a pressure of 25 pounds can be held until the tank is empty. The tanks, however, will stand a pressure of 125 pounds. It is stated that with one Tiffin flusher 40,000 square yards of pavement can be cleaned properly in ten hours. The use of two machines in co-operation increases this and 90,000 square yards can be cleaned by two. The discharge devices are claimed to be superior to those on any other flusher. A combination nozzle is made, by which the machine, when desired, may be operated as a street sprinkler.

The substantial character of the construction is shown by the following extracts from the specifications:

Tank—To be of the best grade of annealed steel, No. 10 gauge, uniform in thickness and free from flaws or defects. The internal diameter to be 46 inches, the internal length to be 114 inches. The heads to be of the best open-hearth flange steel $\frac{3}{8}$ of an inch thick and flanged to a true radius so as to make a perfect fit in the shell. All heads and plates shall be bevel sheared, as the tank must be caulked inside and out and all rivets must be $\frac{3}{8}$ of an inch in diameter, of proper length and driven hot. Tank to stand a test of 100 pounds to the square inch. Capacity of entire tank, 800 gallons, divided into two chambers, the small or air chamber to have 200-gallon capacity and to be a cylinder tank extending from end to end. The large water chamber to have capacity of 600 gallons. Tank to have manhole 10 x 15 inches with handhole plate in water chamber. Air and water chambers to be connected by the necessary arrangement of valves and fittings to enable the tank to be automatically charged with the initial air pressure direct from the fire hydrant. Tank must have 6-inch pipe flange on bottom, bulk heads and double row of rivets.

Nozzles—To be brass of the Zig Zag Jackson pattern or a nozzle equally as good, positioned to deliver a zig zag sheet of water under pressure at or near the center of the machine, angles

of delivery to be so adjusted as to clean the streets most effectively of all refuse. Outlet or supply pipes to be equipped with 2½-inch brass lever throttle valves or valves equally as good. Said valves connected by two levers leading to the driver's seat, one on each side. Levers to be so adjusted that the valve will remain wholly or partially open without the assistance of springs or ratchets. In the bottom of the rear end of the tank is to be located a 2½-inch automatic brass check valve with necessary connections for attaching the 10-foot length of 2½-inch 3-ply rubber hose. Tank to have one pressure gauge located on top of rear end of tank for information to operator when filling.

Framework—Side sills to be 2¾ x 3¾-inch clear white oak with four oak cross sills properly mortised to side sills. Cross sills to be ironed with 3 x ¾ tee irons bolted to side sills. Cross sills to have rubber cushions for tank. Tank to be bolted to framework with three steel bands: Front band to be 1½ x ¾, other two bands to be 1½ x ¾. Ends of bands to be rounded to form a ¾-inch bolt. The timber used in the framework to be of absolutely dry white oak of best grade, properly bolted to running gear.

Truck and Springs—To be truss-made, ironed top and bottom in the most improved way. To be a four-wheeled truck spring gear. Back spring to be 3 inches wide, 44 inches long and to contain 14 leaves. Front spring to be 2¾ inches wide, 40 inches long and to contain 11 leaves. Front and rear gear must track with a 4-ft. 6-inch tread. Axles to be steel, 2¼ front, 2½ rear and to be of Timken roller bearing pattern, guaranteed for one year. Truck to be arranged to be drawn by two horses. Brakes to be of thorough strength iron faced with all necessary spring, dogs and levers.

Wheels—To be 34-inch front and 52-inch rear. Hubs to be of the best grade of Pennsylvania black birch (or oak if required) 14 inches long and 10 inches in diameter. Spokes to be 3 inches and A grade white oak. Felloes, white oak, 3 inches wide, 2½ inches deep; tire 3 x ¾-inch round edge.

Weight—About 4700 pounds.

Sprinkler Attachment—To those wishing to use the same machine for flushing and sprinkling, a combination nozzle that can be attached for sprinkling purposes is furnished.

Cement Tile Machine with Mechanical Tamper

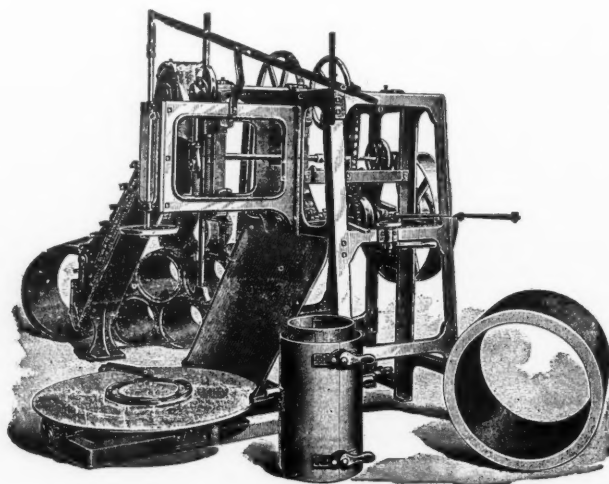
THE National cement tile machine, for which the Marsh Company, 975 Old Colony Building, Chicago, Ill., are the general agents, is an improvement on the ordinary cement tile machine in that the concrete is tamped in place by an efficient mechanical tamper. The possibility of defects in hand tamped tile due to the negligence of workmen is too well known to need mention. The National machine is claimed to eliminate all such risk. The machine consists of a steel frame carrying the elevator and machinery, and at one side an iron pallet on which the mould rests.

The operation of the machine is as follows: The empty mould is placed on the table by a cart made for the purpose, the center is dropped down, the tamper is also lowered and the machine started in motion. The elevator starts and the man shoveling into same keeps the boot full all the time so that a continuous stream is pouring into the now revolving mould. The tamper playing up and down just like a trip hammer, rams the concrete in the mould until it is so hard that the tamper is forced up through the friction a little at a time, but the tamper does not raise until the concrete is packed so hard that it's forced up. It keeps going up until the tile is rammed full. The tamper is then stopped, a trowel is brought into play, finishing up the top with a smooth surface. The tamper runs about 300 times per minute and strikes a 50 or 60-pound blow, so that every particle in the mould is rammed dense and hard. After the tile is completed a cart comes up and takes the tile off the machine and same is wheeled back where the tile are to dry and the packets are removed immediately. The finished tile is just as hard at the top as at the bottom. Tile made on this machine do not fall down as is common with hand-made tile when packets are immediately removed. It is stated that five men can turn out 400 feet of 18-inch tile in 10 hours.

The general construction is strong and substantial. The chains are No. 62 and No. 67. The revolving table is made of heavy steel. Moulds are ¼-inch steel outside and No. 10 inside. Each mould is in 10 pieces, held together by special locking devices that does not allow the least give. Top and bottoms of moulds are turned up in a lathe.



NEW STREET FLUSHING MACHINE



CEMENT TILE MACHINE—MECHANICAL TAMPER

NEWS OF THE SOCIETIES

City-Wide Congress, Baltimore, Md.

A three days' session was held at Albaugh's Theater, Baltimore, Md., March 8-10, for the purpose of organizing a movement to transform Baltimore and make a new and better city of it by 1920. More than 600 delegates, representing 130 civic, improvement and trades associations, were present. J. Hensley Johnson, president, called the Congress to order. Mayor Mahool, the second speaker, promised to follow closely the suggestions of the Congress and try to do all in his power to carry out the reforms proposed. Public hygiene was the first topic discussed in the formal program, and addresses were by Dr. Herman L. Biggs, New York, and Dr. William H. Welch, Johns Hopkins University. Dr. Biggs built up his address upon seven fundamental facts in the problem of public health. He set them forth as follows: There are certain fundamental facts in the problem of public health which must always be solved. Among these are: First, provision for a pure and abundant water supply; second, proper plumbing of the dwellings and an efficient drainage and sewerage system; third, proper disposal of the city waste; fourth, proper paving and care of the streets; fifth, adequate parks and playgrounds; sixth, proper housing of the people; seventh, proper planning of the city's growth. All of these mentioned have to do with the comprehensive and intelligent development of the great public works of the city. The great obstacles in the development of municipal public health work were stated to be: First, the lack of trained men, with permanent tenure of office, to administer sanitary affairs; second, the reluctance of the financial authorities to make adequate appropriations; and third, the lack of hearty co-operation of the people of the community in enforcing ordinances.

On the subject of Municipal Government addresses were delivered by Horace G. Deming, New York, and W. Cabell Bruce, former City Solicitor, Baltimore. On the subject of City Planning addresses were made by Frank Miles Day, Philadelphia, and W. W. Emmart, Baltimore. On Manufactures Taxation and Finance, Lawson Purdy and Prof. Jacob H. Hollander, Johns Hopkins. On social problems the speakers were Alexander Johnson, Chicago, and Mrs. Caroline B. Crane, Kalamazoo, Mich.

The objects of the convention were stated in the platform adopted, as follows:

Merit system in city administration.
The adoption of the city charter that was rejected by the last Legislature.
Marsh lands to be diked and channels deepened.

The drawing up of a plan by experts for straightening and widening streets and for the elimination of all unsightly nooks, corners, elbows, humps and other eyesores, and for a comprehensive system of parks and public squares.

The creation, through municipal co-operation or supervision, of private playgrounds for all city blocks where there is sufficient back yard area.

Increasing the boundary of the city, including the annexation of Brooklyn, in Anne Arundel County, and other adjacent settlements.

The adoption of a comprehensive system of paving.

The protection of the supply of the city's water from pollution in the country.

The employment by the city of men who have received expert training in sanitation, involving the possible idea of the establishment of a course in municipal sanitation at the Johns Hopkins University.

The condemnation of all property between Union Station and Mount Royal avenue, and the parking of the whole area.

A union freight station.

The laying out of the city in zones for trade, manufacture and residence.

The construction of beehive plants.

The purchase by the city of tracts of land to be developed to its best advantage for manufacturing purposes, to avoid mistakes in development that result in loss to investors and impede normal progress.

The extension of city street lines into outlying areas likely to become a part of the city in the future.

To prevent speculative builders from erecting inferior building that nullify the good of expensive municipal improvements.

The building of the Chesapeake and Delaware ship canal by the Federal Government.

The bridging of the Chesapeake.

The conservation of the beautiful section of the Patapsco River between Elicott City and Reay.

The paving of Light street in the best style from the wharf to the Long Bridge.

Firemen's Association of the State of New York.

At the last annual convention of the association, held at Watertown last August, Rochester was selected as the place of holding the next annual meeting, which will convene there on August 15, 16, 17 and 18. The following Central Committee has been appointed to make all arrangements: J. P. Kislingbury, president; Alfred Batho, vice-president; George King, treasurer; A. H. Otto, secretary; J. C. Kalbfleisch, Charles T. Chapin, William V. Clark, Charles E. Sunderlin. It is twenty-nine years since the Firemen's Association convened in Rochester. The parade was the finest firemen's parade ever seen in the city. At that time the association was in its infancy and has gradually grown to such dimensions that the committee expects at least 1,600 delegates present in this city. In order to raise sufficient funds to meet all expenses, the committee has associated with it Bert M. Tallinger, who is now soliciting advertisements for what will be the finest souvenir book ever issued in the city. Mr. Tallinger also has a letter of endorsement from the Chamber of Commerce. The committee is holding weekly meetings and will endeavor to make this the most successful convention in the history of the association. Applications have already been received for positions in the parade, which undoubtedly will be the largest Volunteer Firemen's parade ever witnessed in this State.

Engineers' Clubs of Philadelphia and Brooklyn.

The initial visit of a series which will be exchanged between the members of the Engineers' Club of Brooklyn and the Engineers' Club of Philadelphia was made March 11, when the Brooklyn men were entertained at dinner at the home of the Philadelphia club, No. 1317 Spruce street. All the officers and fifty additional members of the Brooklyn organization came to Philadelphia in a private car late in the afternoon. After the dinner the visitors enjoyed a vaudeville performance in the grill room of the club.

Toasts were responded to at the dinner by J. C. Meem, W. H. Roberts, president, and Joseph Strachan, secretary, all of the Brooklyn club; C. A. Angell, chairman of the Visiting Committee; James Christie, president, and W. P. Taylor, secretary, of the Philadelphia club. The local committee of arrangements was composed of Captain St. George H. Cooke, W. P. Taylor, Lewis R. Ferguson and F. K. Worley, chairman.

Idaho Society of Engineers.—The second annual convention was held at Iowa Falls, February 16-18, with about seventy members in attendance. Various questions pertaining to irrigation were the principal topics of discussion. The following papers were presented: "The Duty of Water as Applied to Different Soils and Crops," "Installation and Capacity of Reinforced Concrete Siphons," by Z. V. Vaughn, "Pumping Water for Irrigation," by E. V. Berg; "Conservation of the Waters of the State," by D. G. Martin; "Laying Out a Canal for a Given Acreage," by R. S. Cookinham; "Earth Dams," by A. M. McPherson; "Losses in Canals and Methods of Prevention," by F. W. Hanna. Excursions were made to a number of irrigation projects where construction was going on. At the invitation of City Engineer Mull and Superintendent Dan White, of the Warren Construction Company, a bituminous pavement was inspected and a sample cut from it. The following officers were elected: Darwin A. Uter, Surveyor General, State of Idaho, president; State Engineer D. G. Martin, vice-president; Edmund M. Blake, Boise, secretary; Charles H. Mull, City Engineer, Twin Falls, treasurer.

League of Second and Third Class Cities of New York.

The following tentative program was formed at a conference between M. P. Capen, secretary to Mayor Duryee, Schenectady, and City Engineer Harding, of Poughkeepsie, where the meeting is to be held, May 25-26. It is proposed to hold the conference in Vassar Institute, where there will be two sessions each day. Among those invited to attend will be President Taft, Governor Dix, Mayor Gaynor, Tax Collector Lawson Purdy, of New York; Comptroller Prendergast, Herman A. Metz and Woodrow Wilson, Governor of New Jersey. Each evening the local committee will furnish entertainment. The topics to be discussed will be as follows:

Thursday morning—"Department of Public Works, in Relation to the Cleaning and Care of Streets."

Thursday afternoon—"Uniform Municipal Accounting."

Friday morning—"Taxation and Assessment."

Friday afternoon—"General Form of Work in Municipal Government," including a discussion on the proper form of government and the new form of commission government.

All these questions will be thoroughly discussed at the meetings. On Friday evening the local committee will tender a banquet to the visitors. This local committee will be appointed by Mayor Sague later on.

American Society of Civil Engineers.

Secretary J. P. Winn, of the Chamber of Commerce, Chattanooga, Tenn., has received a telegram from Charles Warren Hunt, secretary of the society, stating that the next annual convention of this body will be held at Chattanooga, June 13-16. This will be one of the largest and most important gatherings that has ever been held by the organization. Over 500 delegates from all parts of the United States and some foreign countries, including some of the most prominent civil engineers in the world, are expected to be in attendance. Hunter McDowell, of Nashville, chief engineer of the Nashville, Chattanooga & St. Louis Railway, is vice-president of the organization.

American Chemical Society.—At the regular meeting of the Cincinnati section, Clarence Bahlman read a paper on "The Determination of the Hardness of Water," and Dr. Folsom presented a paper on "The Filtration Plant of the City of Washington."

National Electric Light Association.—A branch section was organized at Pittsburgh, Pa., February 28, at a banquet given by the officers of the Allegheny County Light Co. to the company's employees. About 150 were present, practically all of whom joined the new section.

Waterworks Manufacturers Association.—The American Waterworks Association will hold its thirty-first annual meeting in Rochester, N. Y., June 5 to 10. It is desired to make the exhibit of the various waterworks appliances one of the chief features of the convention. This will be under the auspices of the Waterworks Manufacturers' Association. All applications for space either in the exhibition hall or on the canal bank in the rear of the City Hall should be made to Mr. Fred S. Bates, chairman of the Exhibit Committee, 180 Broadway, New York City. Uniform signs only will be used and these will be small and provided by the association.

Chemists' Club of New York.—The Chemists' Building, 50-54 East Forty-first street, New York City, was opened March 17, with ceremonies and meetings which were continued for three days. The building is intended not only to supply the social needs of the Chemists' Club but also to serve as a meeting place for the New York section of the American Chemical Society, the Institute of Chemical Engineers, the Society of Chemical Industry and the American Electrochemical Society. The building occupies a lot 56 by 100 feet and cost upward of \$500,000. Addresses were made by the presidents of the societies interested and a number of technical papers were read. Among them was one by Prof. Wm. P. Mason, Rensselaer Polytechnic Institute, on the "Contribution of Chemistry to Sanitation."

National Good Roads Association.—The fourth National Good Roads Congress, which meets in Birmingham, Ala., May 23 to 26, promises to draw a very large crowd from all parts of the United States. The official call has been printed in many dailies and weeklies. Already inquiries in regard to special railroad rates have come in to the headquarters in Birmingham. J. A. Rountree, the secretary, has asked the Southeastern Passenger Association, the Western Passenger Association and similar organizations in the North for special rates for delegates and visitors to the congress. It is supposed that the Business Men's League and other local organizations will take advantage of this occasion and advertise to secure large crowds from the State and contiguous points. Several days ago an invitation to the fifty-two governors of all the States and territories in the Union were mailed by Secretary J. A. Rountree, joined by the Alabama Good Roads Association, Jefferson County Good Roads Association, Board of Revenue, Chamber of Commerce, Business Men's League and Board of Trade, requesting the presence of these governors and also asking that each of them appoint 100 delegates from their respective States to attend this congress. Already tentative acceptance has been received from several governors.

Calendar of Meetings

- March 21-22.**
New York State Railroad Association.—Quarterly Meeting, Syracuse, N. Y.—C. Gordon Real, Secretary, Kingston, N. Y.
- April 6-8.**
American Electrochemical Society.—Annual Meeting at New York City.—Secretary, Joseph W. Richards, Lehigh University, South Bethlehem, Pa.
- May.**
City Commission Congress.—Meeting, Galveston, Tex.—Mayor Lewis Fisher, Chairman of Committee, Galveston, Tex.
- May 11.**
Massachusetts Highway Association.—Quarterly Meeting in conjunction with the New Eng. and Conference on Street Cleaning, Springfield, Mass.
- May 18-19.**
Ohio Society of Mechanical Steam and Electrical Engineers.—Annual Convention, Youngstown.—F. E. Sanborn, Secretary, Ohio State University, Columbus.
- May 23-25.**
National Fire Protection Association.—Annual Meeting, New York City.—F. H. Wentworth, Secretary, 87 Milk St., Boston.
- May 23-26.**
National Good Roads Association.—Fourth National Good Roads Congress, Birmingham, Ala.—J. A. Rountree, Secretary, Birmingham, Ala.
- May 29-June 2.**
National Electric Light Association.—New York City.—T. C. Martin, Secretary, 31 West 39th St.
- June 6-10.**
American Water Works Association.—Thirty-first Annual Convention, Powers Hotel, Rochester, N. Y.—John M. Diven, Secretary, 14 George street, Charleston, S. C.
- June 11-16.**
International Association of Chiefs of Police.—Eighteenth Annual Convention, Rochester, N. Y.—Major Richard Sylvester, Superintendent of Police, Washington, D. C., President.
- June 13-18.**
New York State Association of Chiefs of Police.—Annual Convention, Rochester, N. Y.
- June 13-16.**
American Society of Civil Engineers.—Annual Convention, Chattanooga, Tennessee.—Charles Warren Hunt, Secretary, 220 West 57th St., New York.
- October 4-6.**
League of American Municipalities.—Annual Convention, Atlanta, Ga.—John MacVicar, Secretary, Des Moines, Ia.

PERSONALS

ANDERSON, CHARLES L. B., retires from the firm of Hazlehurst & Anderson to become associated as chief engineer with the Clarendon Construction Company, of Washington, D. C.

BENNETT, CHARLES J., Deputy Superintendent of Streets of Hartford, Conn., has been appointed Superintendent, to succeed Frederick L. Ford, resigned.

BOARDMAN, WM. H., of Philadelphia, has been retained by the city of Frederick, Md., to investigate the water supply situation and to make recommendations for an increase in the supply.

BOWMAN, JOHN G., secretary of the Carnegie Foundation, has been elected resident of Iowa State University. Mr. Bowman is but thirty-three years old and is said to be the youngest college president of the country. He graduated from Iowa State University in 1899 and received his M. A. degree there in 1904.

CAMPBELL, FRANK, has been appointed Town Engineer of Hackensack, N. J.

CASEY, WM. C., has been elected mayor of Batavia, N. Y.

CLARKE, W. G., has been re-employed by the city of Toledo as consulting engineer at the filtration plant during the construction of the 14 supplementary filter units.

CROWIN, THOMAS, Mayor of Belle Center, Wis., has resigned because of the press of business. Dr. J. C. Banning has succeeded to the office.

DONAHOE, S. E., a former patrolman on the Alexandria police force and recently foreman of a railway construction crew at Hammond, will be the new Chief of Police of Alexandria, Ind., succeeding the late John L. Ellis.

DOWNES, HARRY C., will be chief smoke inspector of Cleveland, Ohio, on and after March 31. The resignation of William P. Walsh, present smoke inspector, will be in force on that date. It was announced by Director Hogan that Walsh had tendered his resignation in order to become city sales manager for the Great Western Oil Company.

GRAY, WM. B., has resigned as general superintendent for H. S. Kerbaugh, Inc., and has been appointed general manager and chief engineer for Geo. W. Jackson, Inc., of New York and Chicago, who are executing Catskill Aqueduct contract 54 for the New York Board of Water Supply. Mr. Gray while general superintendent for H. S. Kerbaugh, Inc., organized Contract 11 of the Catskill work and designed the steel crushing and mixing plant and the steel centering used on that contract. He was associated with H. S. Kerbaugh, Inc., for the past ten years, during which time he had charge of construction of the Marysville, Enola and Pitcairn yards and the low-grade freight lines of the Pennsylvania Railroad, all very heavy work, employing large forces of men and large plants. Mr. Gray is an associate member of the American Society of Civil Engineers.

HALDEMAN, B. A., presented a paper on "A Review of the Progress of City Planning" before the Engineers' Club of Philadelphia on March 18. At a business meeting of the club on March 4 Mr. N. W. Akimoff read a paper on "The Design of Impellers of Modern Centrifugal Pumps," and Mr. Carl Hering one on "Engineering Features of Electric Furnaces."

HARRISON, CHRISTOPHER, has been appointed City Engineer of Everett, Mass., for the fourteenth consecutive term.

HAZLEHURST, JAMES N., consulting engineer, retiring from the firm of Hazlehurst & Anderson, will continue the practice of his profession at Atlanta, Ga.

MULLEN, C. W., has been elected mayor of Bangor, Me.

PEARSE, LANGDON, assistant engineer for the Sanitary District of Chicago, gave an illustrated lecture on March 11 at the Detroit Museum of Art on "Modern Ideas as to the Desirability of Pure Water, in Connection with Water Supply and Sewage Disposal." Mr. Pearse made particular reference to conditions in various typical lake cities.

STEPHENS, WM. D., of Los Angeles, Cal., whose term as member of Congress has begun, resigned his position of President of the Municipal Board of Water Commissioners, and Major Henry T. Lee was elected by the board as his successor. Mr. Stephens will continue for the time being to serve as a member of the Water Commission. Only the position of president of the board has a salary attached, \$3,000 a year. The other service is honorary and will not conflict temporarily with Congressman Stephens' other duties.

TIGHE, JAMES L., who has served the city of Holyoke, Mass., as engineer of the municipal water works and City Engineer for nineteen years, has opened an office as consulting engineer in the Caladonia Building, Holyoke.

VAN TASSEL, ROBERT, has been re-elected president of the Water Board of Lowell, Mass., and Robert J. Thomas has been re-elected superintendent.

WARD, MICHAEL P., has been chosen chairman of the new Board of Health named by Mayor Connery of Lynn, Mass.

TRADE NOTES

Cast Iron Pipe.—Chicago—Business is active and numerous small sales have been made. Prices continue firm. Quotations: 4-inch, \$25.50; 6 to 12-inch, \$24.50; 16-inch and up, \$24. Birmingham—The tonnage placed recently consists principally of comparatively small lots, but the prices received indicate the maintenance of the recent advance. The market is considered as stronger than for some weeks. Quotations: 4 to 6-inch, \$22; 8 to 12-inch, \$20; over 12 inch, average, \$19. San Francisco—Prices show increasing firmness, and in expectation of a further advance a large volume of business has been booked. Most of the buying has been for small municipal projects. Quotations: 6-inch, \$33; 4-inch, \$35. New York—The general market shows a renewal of activity, with quite a number of inquiries from private consumers, and some sales. Competition for business is still keen. Quotations: 6-inch, carloads, \$21 to \$22.

Lead.—Some fairly good sales of lead have been made by outside sellers at lower prices than prevailed a week ago. The leading interest continues to keep its quotation at 4.50c., New York, which is now fully 12½ points above the price set by independent sellers. As a matter of fact, the American Smelting & Refining Company is practically out of the market, except that it is making a few sales of selected brands. The St. Louis market is ragged, and there are reports that the price of 4.22½c. has been slightly shaded there. Plenty of lead can be had in New York at 4.37½c.

Valves.—The stockholders of the Chapman Valve Manufacturing Company, Indian Orchard, Mass., have voted to accept the recommendation of the Board of Directors for a financial reorganization, by which the corporation will be capitalized for \$1,000,000: equally divided between common and preferred stock, an increase of preferred stock of \$200,000, but a decrease in common stock from \$1,000,000 to \$500,000. The stockholders were practically unanimous in their action, which will put the finances of the business on a most substantial basis.

100,000-Barrel Cement Order.—The Tennessee Coal, Iron & Railroad Company, of Birmingham, has closed a contract with the Standard Portland Cement Company, of Birmingham, for 100,000 barrels of Portland cement, to be used principally in the construction of the Edgewater dam. The Standard plant is located at Leeds, Ala., and the quality of cement manufactured is offered as fulfilling the most rigid tests and specifications.

Quarry Plant for Sale.—A stone-quarrying and crushing plant in Wake county, North Carolina, is offered for sale. Its daily capacity of crushed stone is 300 tons. For details address the American Stone Company, Box 538, Richmond, Va.

Hydraulic Pipe Flanging.—A new pipe flanger employing the cold hydraulic process is being developed by the Patterson-Allen Engineering Company, 2 Rector street, New York City. The machine is automatic in its operation and will flange bent and straight pipe equally well. It does its work rapidly, having a capacity of between 250 and 300 8-inch flanges per day.

Gravel Plant.—The Tioga Gravel Company, which was recently organized with a capital stock of \$200,000, will

install a plant for washing and screening gravel at Tioga, La. Among those interested in the enterprise are C. L. Dwyer, George K. Force, K. C. Barkley and A. D. Anderson, of Houston, Tex., and E. S. Brasher, of Tioga, La.

Municipal Auditing.—A settlement has been reached between the Audit Company of New York and the City of Louisville by which the Audit Company accepts \$39,500 in full settlement of its bill of \$46,000. The settlement was made by the advice of City Attorney Clayton B. Blakeley, who advised that if the bill were disputed there would be interest to pay, and a master's salary of \$2,000; besides the bill as presented might be allowed in full. The Audit Company was hired by Mayor Robert W. Bingham to audit the books of the Louisville Water Company. The books were found to be correct.

Cement Prices Advance.—The leading manufacturers of Portland cement advanced their quotations 5c. per bbl. on March 1. The new quotation for cement, delivered in New York City, is \$1.48, with an allowance of 40c. for the bags returned. Compared with the basis of last year, the quotation would be \$1.38. It represents a price of 80c. per bbl. in bulk at the mill. Manufacturers are making this quotation on contracts to be shipped within the next thirty days, and state that a further advance will probably be made April 1. There is little or no cutting of prices, except by some concerns which are habitually under the market.

Water Purification Apparatus.—The Walworth Manufacturing Company, of Boston, Mass., has taken over the sale of the apparatus for water purification made by the American Water Purification Company, of the same city.

Steam Rollers.—The Iroquois Iron Works, of Buffalo, has received an order for six 10-ton macadam steam rollers for the Philippine government work, and for a similar roller for government use in the District of Columbia.

Lap Welded Pipe.—American Spiral Works, Chicago, Ill., have issued a circular which calls attention to the line of lap-welded steel pipe made in sizes ranging from 12 to 72 in. in diameter, which are illustrated. This pipe is made from low carbon open hearth steel and is especially suited for gas, compressed air, vacuum and high-pressure hydraulic lines. The illustrations show some 30-in. lap-welded pipe and fittings and an 11-ft. lap-welded steel drum.

Crushing Plant.—The St. Paul Stone Quarries Company, St. Paul, Ind., is endeavoring to interest additional stockholders for the purpose of enlarging the present stone crushing plant.

Castings for Municipal Work.—The Murray Iron Works Company, Burlington, Ia., has issued a pamphlet devoted to a line of castings for sewer, water and street lighting work. All of these castings are illustrated and two of them, a catch basin and a sewer outlet, both of which are patented, are described at length.

Crushing Plant.—R. B. Tyler & Co., Louisville, who have bought the Tucker quarries at Tucker, Ky., will purchase a complete crushing outfit, including boilers, compressors and drills, and will extend the operations at Tucker.

Care of Solid Rubber Tires.—The Firestone Tire and Rubber Company has issued a colored poster containing a proposed Chauffeur's Moral Code, which refers to the elastic and other properties of rubber. The rules refer to the use of vehicles having solid, not pneumatic tires. The poster reads:

This Certifies, That the Commercial Motor Vehicle chauffeur to whom this document has been awarded has the interests of his vehicle ever in mind and, regardless of the yearnings of the repairman and the junk dealer, has adopted the following Chauffeur's Moral Code:

1. I will avoid overloading my vehicle, because of the heavy stress it places on the mechanism and tires.

2. I will not overspeed my vehicle, as I realize that its tires and mechanism have their limitations and if persistently overtaxed they cannot give their full length of service.

3. I will keep my brakes working with equal pressure on each wheel, and the axles and wheels trued up. I can thereby save rack and wear on the running gear and prevent unusual stress on any one of the tires.

4. I will not allow oil or grease to accumulate on my rubber tires, because this will cause them to decay.

5. I will always start my vehicle before turning the steering wheels, remembering that the act of turning the front wheels when vehicle is standing still, places a heavy and unnecessary stress upon the tires.

6. I will start and stop my vehicle gradually, and avoid jerky motions under all circumstances.

7. I will not persist in running my vehicle along street car rails, as that grinds off the edges of the tires.

8. I will always, when possible, choose the smoother pathway, avoiding obstacles and road irregularities, and will cross car tracks preferably at an angle.

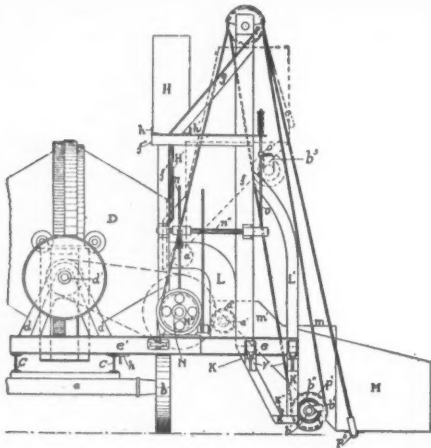
9. As merely resetting or repairing a side-wire tire will in many cases double its life, I will have my tires attended to promptly in order to secure this extra service.

Electrical Conduits.—The Steel Conduit Company has been incorporated with a capital stock of \$150,000 at Penn Yan, N. Y., to manufacture electrical conduits and insulating devices. The incorporators are W. T. Morris, H. M. Short and E. R. Ramsay, Penn Yan.

Lock Joint Pipe.—City Engineer Hoover, Everett, Wash., has expressed satisfaction over the contract of the Pacific Lock Joint Pipe Company that has completed the manufacture of cement pipe for the Capitol Hill sewer and laterals. The 4-feet sections, 3½ inches in thickness, 30 inches in diameter and each weighing 1,500 pounds, lie along Broadway, waiting for the sewer contractors, Snyder & Stalwell, to put them in place. The lock joint pipe is something new in Everett. From Seventeenth street to Twenty-first street, on Broadway, the pipe lying along the distance is of the 30 and 24-inch variety. The laterals will use a 24-inch pipe, the smallest made by the company. This was made on the ground, molded in collapsible steel forms 4 feet long, prepared of sand, gravel and cement in a one, two and four mixture. Superintendent W. S. Shaw, of the Pacific Lock Joint Pipe Company, has taken his men and equipment to Salem, Ore., where the company has a contract.

PATENT CLAIMS

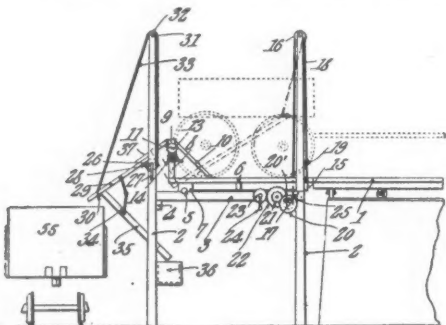
985,751. CHARGING DEVICE FOR CONCRETE MIXERS. Thomas L. Smith and Edward W. Meyer, Milwaukee, Wis., assignors to The T. L. Smith Co., Milwaukee, Wis., a corporation of Wisconsin. Filed Feb. 1, 1909. Serial No. 475,499.
A charging device for a concrete mixer consisting of a loading car having an open discharge spout adapted to enter the feed



opening of the mixer drum, guide tracks engaging said car and hoisting means for operating said car, said guide tracks so constructed as to introduce the discharge spout of the car to the feed opening of the mixer and to tilt the car for discharge by the upward movement given by the hoist.

985,923. LOADING APPARATUS. Frank J. Neefe, Cottage Grove, Wis. Serial No. 541,328.

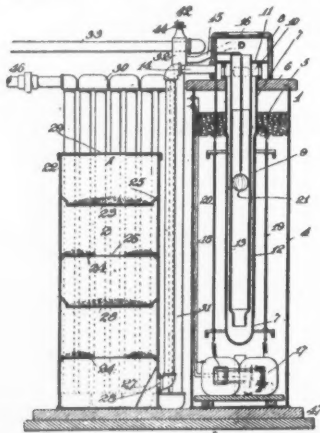
A loading apparatus comprising a frame,



a tiltable bed mounted upon the frame, a traction means mounted upon the bed, and a chute mounted upon the frame.

986,194. WATER-STERILIZING APPARATUS. Clifford D. Meeker, East Orange, N. J., and Charles Fred Wallace, New York, N. Y., assignors to Gerard Ozone Process Company, New York, N. Y., a corporation of New Jersey. Serial No. 575,492.

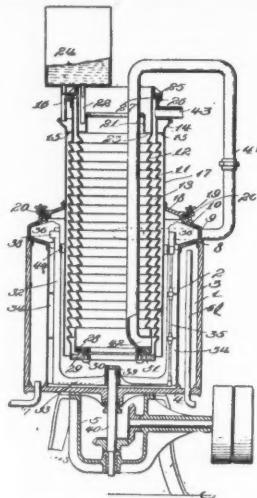
A water sterilizer having a tank containing oil, an ozonizer element submerged



in said oil, a transformer also submerged in said oil, and electrical connections from said transformer to the ozonizer element having joints therein located within the body of oil.

986,257. REGENERATIVE PASTEURIZER. Joseph Willmann, Derby, Conn. Serial No. 489,925.

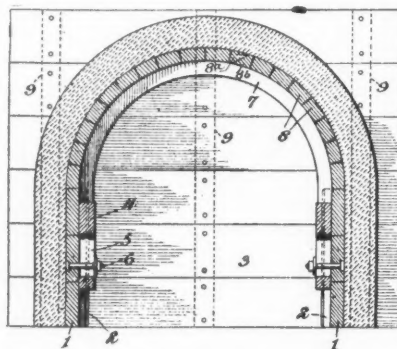
A regenerative pasteurizer comprising a heating section and a regenerative section,



the regenerative section being removably mounted within the heating section.

985,916. MOLD FOR CULVERTS. Nicholas Marx and John Ketzner, Mount Hope, Kan. Serial No. 514,561.

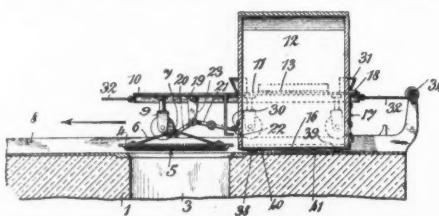
A culvert mold comprising a plurality of boards arranged on edge and rigidly connected by vertical cleats forming vertical side frames, vertically disposed blocks arranged at intervals on the inner faces of the side frames and provided with vertical slots, means for operating in the slots for adjustably securing the blocks to the side frames, said blocks terminating short of the



upper edges of the side frames, rigid arched supporting members spaced apart and removably seated at their lower ends upon the upper ends of the blocks and extending below the upper edges of the side frames and held against lateral movement by the same, and a collapsible arched cover resting upon the upper outer faces of the arched members and also upon the upper edges of the side frames, said cover being composed of longitudinal bars placed edge to edge, two of the said bars being beveled and overlapped to form an automatically collapsible joint, whereby the cover is collapsed by lowering the blocks at each side.

985,830. APPARATUS FOR DISCHARGING DUST-CARTS INTO THE FURNACES OF REFUSE-DESTRUCTORS. Jacob Ochsen, Zurich, Switzerland. Serial No. 487,990.

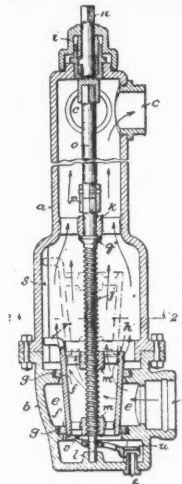
Apparatus for discharging dust into covered receptacles, comprising a movable frame, a lifting member thereon, means



operated by the movement of the frame to move the lifting member into position to engage the cover of the receptacle, and a dust box adapted to be placed in the frame and to actuate the lifting member to raise the cover.

985,469. HYDRANT. Ole O. Storle, Tacoma, Wash., assignor to O. O. Storle Valve Company, Green Bay, Wis., a corporation of Wisconsin. Filed July 11, 1910. Serial No. 571,443.

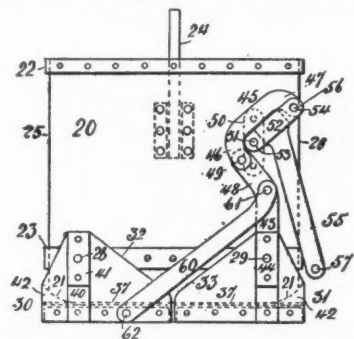
In a hydrant the combination with a tubular body having a discharge connection at the upper end, an inlet chamber and a lateral inlet connection opening into said chamber at the lower end and aligned open-



ings and valve seats on opposite sides of said inlet connection, a tapering tubular valve fitted to said seats, and an operating stem extending upwardly through said tubular body and adapted to move said valve axially.

986,100. BOTTOM-DUMPING BUCKET. Gustavus L. Stuebner, Flushing, N. Y. Serial No. 448,322.

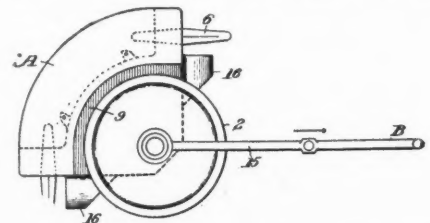
In a bucket the combination of a body having curved lower edges, a pair of doors pivoted thereto, side plates for the doors, bottom plates for the doors, filling blocks on the bottom plates curved to gauge with curved lower edges of the body of the



bucket, locking links pivoted to opposite sides of the bucket, arms extending from the side plates of one of the doors, links connecting the arms and the locking links, the latter link locking itself with the locking link when the doors close the bucket, connecting links connecting the said arms and the side plates of the other door, arms extending from the locking links, and a handle bar connecting the arms.

986,113. ROAD SCARIFIER. Edward Wright, Brooklyn, N. Y. Serial No. 565,941.

A road scarifier, comprising a metal body, wheel-supported means for pivotally supporting the body upon a horizontal axis at one side of a vertical line passing through its center of mass, so that said body is



normally unbalanced upon the shaft, a set of picks carried by said body and adapted to engage the ground when its center of mass is at one side of said horizontal axis, and another set of picks carried by said body and adapted to engage the ground when its center of mass is at the opposite side of said horizontal axis.

THE WEEK'S CONTRACT NEWS

Relating to Municipal and Public Work—Street Improvements—Paving, Road Making, Cleaning and Sprinkling—Sewerage, Water Supply and Public Lighting—Fire Equipment and Supplies—Bridges and Concrete Work—Sanitation, Garbage and Waste Disposal—Police, Parks and Miscellaneous—Proposals and Awards

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we cannot guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also corrections of any errors discovered.

BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
STREET IMPROVEMENTS				
Wisconsin	Burlington	Mar. 24, 2 p.m.	Paving with brick, cement, curbing and guttering certain streets	P. J. Hurtgen, Chm. Bd. Pub. Wks.
Ohio	Cincinnati	Mar. 24, noon	Improving Broadwell road	Stanley Struble, Pres. Co. Comrs.
Ohio	Columbus	Mar. 24, noon	Grading and macadamizing 2.10 miles road	Jas. C. Wonders, State Hwy. Comr.
Iowa	Des Moines	Mar. 24, 9 a.m.	Paving various streets and alleys, about 3,000 sq. yds.	Horace Susong, City Clk.
Ohio	Richwood	Mar. 25	Paving with vit. brick portions of various streets	Ray L. Jordon, Village Clerk.
Wisconsin	Watertown	Mar. 25, 2 p.m.	Paving with vitrified block about 7,500 sq. ft.; 3,650 lin. ft. combined curb and gutter, 2,845 cu. yds. excavation	F. S. Weber, Chm. Bd. Pub. Wks.
Wisconsin	Racine	Mar. 25, 10 a.m.	Paving and grading various streets	P. H. Connolly, Chm. Bd. P. Wks.
Indiana	Evansville	Mar. 25, 10 p.m.	Furnishing broken rock and screenings from May 1, 1911 to May 1, 1912	Simon A. Bartholome, Clk. D. P. W.
Iowa	Sioux City	Mar. 25, 9 a.m.	Paving portion of First Street with brick block	E. O. Wesley, Supt. Streets.
Florida	Manatee	Mar. 25	Constructing county roads	County Commissioners.
Ohio	Havana	Mar. 25	Constructing 9.6 miles macadam roadway	Trustees Norwich Township.
Wisconsin	Burlington	Mar. 25	Paving with cement 12,645 sq. yds.; brick paving, 2,220 sq. yds.; 5,875 lin. ft. combination curb and gutter; 5,970 lin. ft. cement curb; and 5,460 cu. yds. excavation	P. J. Hurtgen, City Engr.
New York	Long Island City	Mar. 27	Furnishing 58,000 vit. brick; 20,000 iron slag paving blocks; 25,000 wood paving blocks; 15,000 asphalt blocks	Lawrence Gresser, Pres. Boro. Queens.
New Jersey	Asbury Park	Mar. 27	Furnishing about 10,500 sq. yds. creosoted wood blocks, vit. brick or bitulithic	Wm. C. Burroughs, City Clk.
New Jersey	Jersey City	Mar. 27, 2 p.m.	Repairing asphalt pavements to Nov. 30, 1911	Geo. T. Bouton, Clk. B. S. & W. Com.
Kentucky	Louisville	Mar. 27	Paving with vitrified block various streets and alleys	Caldwell Norton, Pres. Bd. Pub. Wk.
New Jersey	Jersey City	Mar. 27, 2 p.m.	Furnishing about 2,500 lin. ft. of Medina stone crosswalks	Geo. T. Bouton, Clk. Bd. S. & W. Com.
Texas	Galveston	Mar. 27, 11 a.m.	Grading, regrading and paving road from La Marque to Texas C.	John M. Murch, County Auditor
Ohio	Belle Valley	Mar. 28, noon	Grading and paving with brick 0.9 mile of road, in Noble Twp.	S. G. Brown, Engr.
Ohio	Cleveland Hghts.	Mar. 28	Improving Berkshire Road	H. H. Canfield, 309 Beckman Bldg., Cleveland, Village Clerk.
Ohio	Bowling Green	Mar. 28, 1 p.m.	Grading, draining and macadamizing three roads	F. W. Toan, County Auditor.
Michigan	Grand Rapids	Mar. 28, 2 p.m.	Constructing certain gravel roads	Ralph A. Mosher, Clk. Bd. Co. R. C.
Indiana	Noblesville	Mar. 28, 2 p.m.	Constr. about 11 miles gravel road; and 3,789 ft. macadam road	Geo. Griffin, County Aud.
Dis. Columbia	Washington	Mar. 28, 10 a.m.	Furn. Portland Cement to the Naval Academy at Annapolis	T. J. Cowie, Paymaster General.
Ohio	Caldwell	Mar. 28, noon	Grad. and pav. with brick 4,580 lin. ft. road in Noble Township	S. S. Barnhouse, Township Clerk.
California	Hermosa Beach	Mar. 28	Furn. 1,700 lin. ft. cement curb, 1,200 lin. ft. cement gutter, 163 lin. ft. reinforced concrete culvert, 616 lin. ft. roadway—roadway to be oiled and tamped	E. McCoskey, City Clk.
Ohio	Cleveland	Mar. 29	Furn. 60,000 ft. wood blk., 60,000 ft. plank & 4,600 ft. whl. gd.	A. B. Lea, Dir. Bd. Pub. Ser.
Kansas	McPherson	Mar. 29	Paving with asphalt, asphaltic concrete, bitulithic, brick and concrete about 19,000 yds.; and 6,100 ft. of curb and gutter	H. A. Howland, City Engr.
Ohio	Portage	Mar. 29, noon	Pav. with brick 5.53 miles of road in Ravenna & Franklin Twps.	James C. Wonders, State Hwy. Com.
Virginia	Washington	Mar. 29	Constructing about 7 1/2 miles of macadam road	P. St. J. Wilson, State Hwy. Com.
Washington	Spokane	Mar. 29	Paving with asphalt macadam about 15 miles of Apple Way	County Commissioners.
Ohio	Montpelier	Mar. 29	Constr. about 25,500 sq. yds. pave. on Main & Empire sts.	Riggs & Sherman, Toledo, O., Engrs.
New York	Poughkeepsie	Mar. 30, 4 p.m.	Paving 13,000 sq. yds. of brick pavement	Robt. J. Harding, Supt. Pub. Wks.
Ontario, Can.	Guleph	Mar. 30, noon	Con. about 26,000 sq. yds. pavement; 5,000 lin. ft. street railway track and 13,000 lin. ft. combined curb and gutter	T. J. Moore, City Clk.
North Carolina	Wilmington	Mar. 31, noon	Paving and curbing portion of Sixth street	Commissioner of Streets.
Ohio	Toledo	Mar. 31, 10 a.m.	Furnishing macadam material for repair of Stone Road No. 33	Chas. J. Sanzenbacher, Co. Aud.
Iowa	Des Moines	Mar. 31, 9 a.m.	Constructing brick and cement sidewalks for one year	Horace Susong, City Clk.
Indiana	Logansport	Apr. 1	Constructing 50,000 sq. yds. of sheet asphalt	William Pickett, City Clerk.
Wisconsin	Racine	Apr. 1, 10 a.m.	Pav. with brick about 5,616 sq. yds.; 2,746 lin. ft. cementconc. curb; 1,836 cu. yds. excavation; 2,680 cu. yds. filling	P. H. Connolly, Chm. Bd. Pub. Wks.
Alabama	Birmingham	Apr. 1	Paving with various materials 70,000 sq. yds.	Maury Nicholson, City Engr.
Iowa	Merrill	Apr. 1	Grading several roads	Edward Stinton, Township Clk.
Rhode Island	Newport	Apr. 1, 11 a.m.	Constr. macadam road, gutter, catch basins, granolithic walk and concrete curb at U. S. Naval Station	Bureau of Yards and Docks, Navy Dept. Washington.
Iowa	Bronson	Apr. 3, noon	Road work in Floyd Township	H. H. Onstot, Clerk.
North Dakota	Grafton	Apr. 3, 6 p.m.	Constructing sidewalks and cross walks for the year	J. H. Johnson, City Auditor.
North Dakota	Park River	Apr. 3	Constructing sidewalks and crosswalks for one year	F. J. Prochaska, City Auditor.
Ohio	Canton	Apr. 4	Improving various streets and avenues	O. H. Webber, City Engr.
Indiana	Madison	Apr. 4, 1 p.m.	Construction of gravel road	Andrew M. Taff, County Auditor.
Alabama	Wetumpka	Apr. 4, 11 a.m.	Grading and surfacing about 30 miles of sand-clay road	County Commissioners.
North Dakota	Rugby	Apr. 5, 2 p.m.	Metal culverts and road machinery for year 1911	Henry Albertson, County Auditor.
Washington	Coupeville	Apr. 5	Improving Hinman Road No. 32	H. T. Wanamaker Aud. Island Co.
Florida	Jacksonville	Apr. 5	Keeping in repair for one year Atlantic Blvd. and its bridges	P. D. Cassidy, Clerk.
Indiana	Bloomington	Apr. 5, 10 a.m.	Constructing a stone road in Clear Creek Township	Horace Blakely, Co. Audr.
Maryland	Cambridge	Apr. 6, 11 a.m.	Grading, paving and curbing various streets	Henry Lloyd, Chm. St. Imp. Comn.
Missouri	Fulton	Apr. 6	Lay. 5,000 sq. yds. of macad. with binder; also 3,500 ft. con. curb	P. D. Thurmond, City Engr.
Massachusetts	Holyoke	Apr. 7	Furnishing curbing, pitch, cement, coal and trap rock	City Clerk.
Maryland	Ft. Howard	Apr. 7, 11:30 a.m.	Constructing cement walks	Constructing Quartermaster.
Ohio	Cincinnati	Apr. 7, noon	Repairing Lick Run road	Stanley Struble, Pres. Bd. Co. Comrs.
Oklahoma	Lawton	Apr. 10	Paving approximately five miles, rock asphalt base, wearing surface concrete curb and gutter	Z. M. Scifres, City Engr.
Iowa	Cresco	Apr. 10, 8 p.m.	Constructing 5,500 ft. cement concrete curbing and 11,500 sq. yds. cement concrete paving	John E. Peck, City Clerk.
New Jersey	Swedesboro	Apr. 15	Constructing Railroad Avenue	Wilmer Egee, Mayor.
Georgia	Dublin	Apr. 18, noon	Paving with vitrified brick about 600 sq. yds.	A. P. Hilton, City Clk.
SEWERAGE				
Wisconsin	Burlington	Mar. 24, 2 p.m.	Constructing about 2,000 lin. ft. vitrified pipe sewer; 290 lin. ft. sanitary sewer, 7 manholes 18 10-in. 1/4 bends	P. J. Hurtgen, Chm. Bd. Pub. Wks.
Connecticut	Putnam	Mar. 24, 4 p.m.	Constructing about 10,000 ft. of sewers	Geo. W. Perry, Engr. Sewers.
North Dakota	Minot	Mar. 27	Constructing four miles of sewers	Board of City Commissioners.
South Dakota	Huron	Mar. 27, 8 p.m.	Extending trunk sewers	S. S. Oviatt, City Auditor.
Ohio	Cincinnati	Mar. 27, noon	Con. main & lateral sewers & drains with appurt. in various sts.	John J. Wenner, Clk. Bd. Pub. Ser.
Indiana	Elkhart	Mar. 27, 10 a.m.	Bldg. about 2 1/2 miles of 30, 24 and 12-in. sewers	A. M. Smith, City Engr.
Iowa	Sibley	Mar. 28	Constructing sewer system in District 11	V. A. Burley, Co. Audr.
Ohio	Elyria	Mar. 28, noon	Constructing sewers in various streets	Rose Moriarity, Clerk.
Ohio	Cleveland Hghts.	Mar. 28, noon	Constructing sewers in various streets	H. H. Canfield, Village Clerk.
Iowa	Indianola	Mar. 29, 7 p.m.	Bldg. sewer system in North Indianola	A. H. Gilliland, City Engineer.
Pennsylvania	Wilkes Barre	Mar. 31, 8 p.m.	Constructing terra cotta pipe sewers on various streets & aves.	E. Z. Smith, Chmn. Sewer Comm.
Kansas	Leavenworth	Mar. 31, noon	Constructing about 8,500 ft. of sewers	Capt. J. E. Normoyle, C.Q.M., U.S.A.
Pennsylvania	Altoona	Apr. 1	Constructing sewers	F. Engstrom, City Engr.
Sask., Can.	Moose Jaw	Apr. 10, 8:30 p.m.	Furnishing and laying about 30,700 lin. ft. tile pipe sewer, building manholes, etc.; separate bids. Con. sewage disposal plant, etc.	W. F. Heal, City Clerk.
New Jersey	South Orange	Apr. 11, 8 p.m.	Bldg. sanitary sewers in the Hilton district	Edward Arcularious, Twp. Clk.
California	San Jose	July 3	Construct septic tank for County hospital	City Clerk.

BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
WATER SUPPLY				
Texas.....	Lufkin.....	Mar. 24.....	Constructing water works, includ. boilers, pumps, motors etc..	C. N. Humason, Mayor.
Ohio.....	Cleveland.....	Mar. 24, noon.....	Furnishing valves for the Water Dept.....	A. B. Lea, Dir. Pub. Serv.
Illinois.....	Toulon.....	Mar. 24, 7:30 p.m.....	Constr. system of cast iron wtr. supply pipes, hydrants, etc.	W. W. Shields Co., Engrs., 1201 Hartford Bldg., Chicago.
Illinois.....	Chicago.....	Mar. 24.....	Laying cast iron water supply pipe and necessary water service pipes in Long Common and Downing rds.....	F. S. McClory, Secy. Bd. L. Imp.
Indiana.....	Nat. Mil. Home.....	Mar. 25.....	Install. mach. for imp. water sup. at Marion Bch., N.H.D.V.S.	J. W. Sanderson, Treas.
Ontario, Can.....	Chapleau.....	Mar. 27.....	Furnishing duplex steam pumping engine.....	T. J. Godfrey, Town Clerk.
Massachusetts.....	Pittsfield.....	Mar. 27, 2 p.m.....	Furn. about 3,800 tons cast iron wtr. pipe & special castings.	A. B. Farnham, Engr. Bd. Pub. Wks.
Ohio.....	Col'bus Heights.....	Mar. 28.....	Constructing water mains.....	H. H. Canfield, 309 Beckman Bldg., Cleveland, Village Clerk.
Man., Can.....	Winnipeg.....	Mar. 29, 11 a.m.....	Furnishing c. i. pipe for water works and sewer pipe required during present year.....	M. Paterson, Secy. Bd. Control.
Indiana.....	Evansville.....	Mar. 29, 10 a.m.....	Furnishing 2 hori. shaft steam turbine-driven centrifugal pumping engines for supplying water to filtration plant.....	Henry L. Heilman, Secy. B. W. Cm.
Iowa.....	Webster City.....	Mar. 29.....	Improving water system, including boilers, engines, etc.....	P. M. Banks, City Clk.
Missouri.....	Kansas City.....	Mar. 30.....	Constructing self-contained, vertical, triple-expansion crank & fly-wheel pump, engine of 20 million gals. capac. in 24 hrs.	E. B. Harrington, Secy. B.F. & W.C.
Sask., Can.....	Saskatoon.....	Mar. 31, noon.....	Installing mechanical filtration plant.....	W. B. Neil, City Comr.
Oregon.....	Astoria.....	Mar. 31.....	Con. gate, well and high serv. dis. system for hill section of city.	City Clerk.
Minnesota.....	Minneapolis.....	Mar. 31, 7:30 p.m.....	Constructing water tower.....	Henry N. Knott, City Clk.
New York.....	Troy.....	Mar. 31, 11 a.m.....	Furn. valves, sluice gates and appurtenances required in construction of reservoir; and for cast iron pipe and specials.	Edwin L. Grimes, City Engr.
Wisconsin.....	Wauwatosa.....	Apr. 1, 2 p.m.....	Furn. one duplex compound steam driven, air compressor, 90 lbs. steam pressure; cap. 500,000 gals. per min.; also one air receiver or tank suitable size for use with compressor.....	Edward Coulthard, City Clk.
Pennsylvania.....	West Telford.....	April 1.....	Constr. water works; approx. cost \$30,000.....	H. Z. Waipole, Secy. Water Co.
Washington.....	Tacoma.....	Apr. 1, noon.....	Constructing concrete lined reservoir; pipe line from Green River Crossing to reservoir, retaining wall, stand pipes and a telephone line from Headworks to reservoir.....	Nicholas Lawson, Comr. Lt. & Wt. Board of Public Works.
California.....	Vallejo.....	Apr. 3.....	Laying 14-in. pipe and 8-in. pipe in various streets.....	A. T. Dickey, City Engineer.
Texas.....	Galveston.....	Apr. 3, noon.....	Installing 10,766 lin. ft. of water main.....	R. Cooper, Chm. Water Comrns.
Ontario, Can.....	Welland.....	Apr. 3, noon.....	Constr. of one unit water-power driven water-works pump, 3,000,000 Imp. gals. daily cap., incl. turb., pipes, valves, etc.	Maj. Geo. McK. Williamson, Q. M., U. S. A.
California.....	Ft. Baker.....	Apr. 4.....	Reconstructing pump house, installing machinery, laying 6-in. water main and erecting steel water tank.....	J. B. Mace, Pres. Bd. Water Comrs.
New York.....	Keesville.....	Apr. 5.....	Constructing reservoir, laying water pipe, etc.....	W. F. Heal, City Clerk.
Sask., Can.....	Moose Jaw.....	Apr. 10, 8:30 p.m.....	Furn. and lay. about 29,700 lin. ft. c. i. water main; sep. bids.	Capt. Jos. F. Gohn, Con. Q.M.U.S.A.
Maine.....	Ft. McKinley.....	Apr. 15.....	Constructing chemical water softening plant.....	
BRIDGES				
Pennsylvania.....	Brookville.....	Mar. 24, noon.....	Constructing rein. concrete bridge over Runaway Run.....	W. A. Kelly, Clk. Bd. of Comrns.
Ohio.....	Cincinnati.....	Mar. 24, noon.....	Constructing concrete bridge.....	Stanley Struble, Pres. Co. Comrs.
Illinois.....	Patoka.....	Mar. 24, 1 p.m.....	Constructing reinforced concrete bridge.....	J. F. Davidson, Town Clk.
Virginia.....	Danville.....	Mar. 28, noon.....	Constructing reinforced conc. bridge about 1,000 ft. long with 20-ft. roadway.....	J. O. Magruder, City Engr.
Indiana.....	Evansville.....	Mar. 30, 10 a.m.....	Reinforced concrete wall on State Road; new concrete piers and abutments for Bayou Bridge; remodelling Marx Bridge; Butsch Bridge and Schaeffer Bridge.....	Chas. P. Beard, County Auditor.
New York.....	Fredonia.....	Apr. 1, 2 p.m.....	Constructing concrete arch over Candaway Creek.....	Frank H. Moir, Town Clerk.
Kansas.....	St. John.....	Apr. 3, noon.....	Con. 2 cement and steel bridges & repairing 1 cement bridge.	R. C. Ardrey, Co. Clk.
Pennsylvania.....	Allentown.....	Apr. 3, 10 a.m.....	Repairing 5 wooden bridges.....	J. S. Troxell, Clk. Bd. of Comrns.
Kansas.....	Hill City.....	Apr. 4, noon.....	Constructing bridge.....	Ben. S. Smith, Co. Clerk.
North Dakota.....	Cando.....	Apr. 4, 1 p.m.....	Constructing 150 ft. more or less of concrete and steel bridges.	Frank Shanley, County Auditor.
Ohio.....	Columbus.....	Apr. 5, noon.....	Grad. roadway, con. abutments & approaches of various bridges.	F. M. Sayre, Co. Audr.
Indiana.....	Vincennes.....	Apr. 8, 10 a.m.....	Constructing 3 bridges in Knox County.....	John T. Scott, Aud. Knox Co.
New Jersey.....	Camden.....	Apr. 10, 11 a.m.....	Constr. conc. culvert over Bates' Mill Stream; alternate bid for wooden bridge at same place.....	Fred'k W. Gercke, Chm. Bridge Com.
LIGHTING AND POWER				
Pennsylvania.....	Wilkes Barre.....	Mar. 24, noon.....	Lighting with electricity and caring for 36 or more 5-light cast iron ornamental lighting standards in the pub. sq. for 1, 3 and 5 years.....	R. Nelson Bennett, Ch. Light. Com.
Massachusetts.....	Springfield.....	Mar. 24, noon.....	Electric wiring of the Springfield Municipal power plant.....	Edward H. Lathrop, Mayor.
Indiana.....	Columbia City.....	Mar. 25.....	Furnishing machinery for electric light plant.....	City Clerk.
California.....	Los Angeles.....	Mar. 27, 2 p.m.....	Furn. 2 engine gener. sets in Hall of Records; franchise granting right to construct electric poles and wire system through Central ave. and Linden st.....	H. J. Leland, Co. Clk.
Ohio.....	Madisonville.....	Mar. 28, noon.....	Furnishing 1 direct connected engine and generator, 100 K.W. 125 K.V.A., 2,300 volts, 3-phase, 60 cycles, 150, 250 or 277 R.P.M.....	Wm. H. Blaney, Clk. Bd. Puv. Aff.
Iowa.....	Webster City.....	Mar. 29.....	Improving electric light system.....	P. M. Banks, City Clk.
Kentucky.....	LaGrange.....	Apr. 1.....	Installing second-hand 65 H.P. gas engine and producer for soft coal; 45 kilowatt D. C. multipolar comp. 250 volt generator; also poles, overhead and underground wire, cross-arms etc.....	J. C. Emmick, Manager.
Sask., Can.....	Rouleau.....	Apr. 4.....	Pumping machinery, electrical machinery, pole line, etc., producer gas plant, c. i. or steel water mains, valves etc.....	W. H. Stewart, City Secy.-Teras.
Minnesota.....	Eveleth.....	Apr. 4.....	Furn. 6 blocks of ornamental street light. sys., about 46 posts.....	D. P. McIntyre, City Clk.
Sask., Can.....	Moose Jaw.....	Apr. 10, 8:30 p.m.....	Furn. 2 electrically driven centrif. pumps and auto starters.....	W. F. Heal City Clerk.
FIRE EQUIPMENT				
Ohio.....	Ashtabula.....	Mar. 27.....	Furnishing one combination hose and chemical automobile; one combination hose chem. and eng. automobile, both capable of carrying not less than 1,000 ft. 2 1/2-in. hose and both to be equipped with tanks of 30 gals. capacity.....	I. M. Hadcock, Dir. Pub. Safety.
Pennsylvania.....	Lebanon.....	Mar. 27.....	Furnishing a chemical fire engine.....	Chas. T. Hickernell, Pres. Vol. Fire C.
Washington.....	Vancouver Bar.....	Mar. 30, 11 a.m.....	Constructing fire station.....	Constructing Quartermaster, U. S. A.
Washington.....	Tacoma.....	Apr. 6, 3 p.m.....	One-third size steam Fire Engine.....	L. W. Roys, Comr. Public Safety.
New Jersey.....	Jersey City.....	Apr. 7.....	Furn. 1 first-size steam fire engine & 85-ft. aerial hk. & lad. truck.	Michael J. Fagers, City Clk.
New Jersey.....	Paterson.....	Apr. 21.....	Furn. automobile hook and ladder outfit and converting 2 first-class fire engines into gasoline-propelled vehicles.....	T. S. Standeven, City Clk.
New Jersey.....	Princeton.....	July 5.....	Furn. auto pumping engine.....	E. M. Updike, Chm. F. & W. Com.
MISCELLANEOUS				
Wisconsin.....	Burlington.....	Mar. 24, 2 p.m.....	Building reinforced concrete retaining wall around stand-pipe.....	P. J. Hurtgen, Chm. B. P. Wks.
Pennsylvania.....	Carnegie.....	Mar. 24, 7:30 p.m.....	Collecting and disposing of garbage for one year.....	George W. Boden, Chm. B. P. Com.
Dis. Columbia.....	Washington.....	Mar. 24, 2 p.m.....	Constructing an engine house on Georgia ave.....	Cuno H. Rudolph, Chm. Bd. Com.
Illinois.....	Galva.....	Mar. 25.....	Constructing a sewage disposal plant.....	E. O. Engstrand, City Clk.
New York.....	Buffalo.....	Mar. 25, 11 a.m.....	Constructing a 40-ton grate refuse destructor.....	Francis G. Ward, Comr.
Pennsylvania.....	Scranton.....	Mar. 27, 11 a.m.....	Constructing two fire houses.....	W. G. O'Malley, Dir. D. P. Safety.
Kansas.....	Salina.....	Mar. 27, 8 p.m.....	Constructing city hall and jail annex buildings.....	Chas. E. Banker, City Clerk.
Wisconsin.....	Green Bay.....	Mar. 29.....	Constructing jail and sheriff's residence.....	Foeller & Schober, Architects.
Massachusetts.....	New Bedford.....	Mar. 29, 3 p.m.....	Furnishing 57 sanitary drinking fountains in various schools.....	Allen P. Keith, Secy. Com. Sup.
New York.....	Troy.....	Mar. 29.....	Erecting county jail.....	Rensselaer County Jail Comm.
South Carolina.....	Charleston.....	Apr. 4, 7 p.m.....	Furnishing for one year iron castings; brick, lime and portland cement; lumber; curbing; terra cotta pipe; concrete sidewalks; laying terra cotta pipe; hauling stone curbing; furnishing crushed stone; purchase and removal of manure.....	J. H. Dingle, City Engineer.
Connecticut.....	Waterbury.....	Apr. 5, 4 p.m.....	Altering building to conform to requirements of mod. fire sta.....	Wm. H. Sanderland, City Clerk.
Texas.....	Rotan.....	Apr. 6.....	Constructing two story brick city hall building.....	R. O. Owen, City Secy.
Kansas.....	Hutchinson.....	Apr. 7, 3 p.m.....	Sprinkling various streets.....	Ed. Metz, City Clerk.
Wisconsin.....	Pond du Lac.....	Apr. 7, 3 p.m.....	Sprinkling various streets.....	J. S. McCullough, Chm. Bd. Pub. Wk.

STREET IMPROVEMENTS

Phoenix, Ariz.—Council has decided to ask for bids for paving 12 blocks.—Frank Thomas, City Recorder.

Los Angeles, Cal.—City Engineer Homer Hamlin has recommended that First st. be paved at once.

Long Beach, Cal.—City will at once pave Third st. and Pine ave.; Daisy ave. will be paved for distance of one mile.

Santa Monica, Cal.—Plans for grading and oiling coast road from Topanga canyon entrance north to Malibu ranch gate are under favorable consideration with County Supervisors.

Collbran, Col.—Plateau Valley Good Roads Association has been organized to build pike road from Collbran to Palisade, 35 miles; will ask county to call a bond issue election; cost \$75,000.—J. E. Harris, Mesa, President.

Denver, Col.—City proposes to form two new improvement districts: East Denver Improvement District No. 4, work to include grading and concrete curb and gutter, estimated cost \$52,863, and East Side Improvement District No. 6, including grading, concrete curb and gutters and surfacing roadways with smaller slag and crushed live granite, estimated total cost \$68,612.

Putnam, Conn.—Town has voted to purchase a stone crusher and steam road roller for use on town roads.

Westport, Conn.—Riverside ave. will be macadamized; Deputy Road Commissioner Innis will have matter in charge.

Macclesney, Fla.—Baker County Commissioners have decided to construct road from west to east across county.

Athens, Ga.—Council has decided to issue bonds for construction of concrete sidewalks; bids will be invited at once.

Brunswick, Ga.—Council has decided to pave portion of F st.

Canton, Ill.—Board of Local Improvement has instructed the City Engineer to prepare estimate for paving West Chestnut st.

Moline, Ill.—City will pave East 4th ave. 34th st. to eastern limits of city.

Moline, Ill.—Improvement of Fifth ave by widening from Fifteenth to Eighteenth sts. will cost \$34,765.

Silvis, Ill.—H. G. Paddock, Moline, is preparing plans for paving 1st st. with vit. brick at cost of \$61,685.—Geo. Sluth, Secretary Board Local Improvements.

Alexandria, Ind.—County Commissioners will consider improvement of Wayne ave. and East Second st.

Hartford City, Ind.—William P. Modlin and others have filed petition asking for improvement of public highway.

Hartford City, Ind.—County Commissioners are considering improvement of Wabash ave.

Sullivan, Ind.—Sullivan County Commissioners have ordered plans and specifications on which bids will soon be asked for construction of four crushed stone and one brick road.

Hampton, Ia.—Hall & Adams, Center-ville, have prepared plans for 5,060 sq. yds. brick paving, 1,860 lin. ft. cement curb, etc.

Shenandoah, Ia.—Council has decided to lay about 14 blocks of brick paving.

Covington, Ky.—Ordinances calling for resurfacing of 13th st. between Greenup and Garrard sts., and 20th st., Eastern to Glenway ave., with brick paving, have been adopted by Council.

Louisville, Ky.—Fiscal Court has decided to purchase three road rollers.

Shelbyville, Ky.—Council will call bond issue in fall on \$50,000 bonds to construct street, build city hall and make other improvements.

Alexandria, La.—Bond issue for road and bridge building is being considered.

Everett, Mass.—City is contemplating 16,000 sq. yds. granite block paving.—Chris. Harrison, City Engineer.

Methuen, Mass.—Town has appropriated \$1,700 for purchase of stone crusher.

Duluth, Minn.—Board of Public Works has decided to improve E. 4th st.

St. Paul, Minn.—Board of Public Works has rejected bids for curbing, filling and improving Langford ave.

Great Falls, Mont.—Construction of concrete sidewalks on 2d, 3d, 4th, 5th, 6th, 7th sts., 1st and Central aves. has been recommended.

Fulton, Mo.—Citizens will vote on proposition to improve 5th st. with macadam with binder; about 8,000 sq. yd. of macadam and 3,800 ft. of concrete curb; also proposition to pave four streets with brick; at cut 12,000 sq. yd. of brick and 4,000 ft. of curb; bids will probably be asked in April.—P. D. Thurmond, City Engineer.

Salem, N. H.—Town has voted to raise \$1,000 to repair macadam roads.

Newark, N. J.—Board of Works has decided to ask for proposals for paving South 19th st. with brick, Ave. B, Kirk alley, Hay alley, Exchange alley and Alvea st. with

granite, and Ardsley court and Coeyman st. with brick.

Orange, N. J.—Plans for making extensive repairs to the streets of Orange are being considered by Street Committee.

Woodbury, N. J.—Gloucester County Stone Road Committee has apportioned \$10,000 for repairs to roads in county.

Corning, N. Y.—Steuben County Board of Supervisors has approved all five of the propositions for building county roads in this county during the coming summer; there will be 17.72 miles of new county road built at an approximate cost of \$230,000.

Lyons, N. Y.—Board of Supervisors will at once approve plans and specifications of three county highways to be built with State aid next summer.

Newfane, N. Y.—Town Board has appropriated \$5,350 for improving roads.—Thos. Brennan, Superintendent of Highways.

New York, N. Y.—Resolutions have been passed for widening Twenty-third st., between Second and Seventh aves.; Thirty-fourth st., between Sixth and Madison aves.; Second ave., between Houston and Twenty-third sts.

Whitesboro, N. Y.—Village will soon vote on paving four streets.

Pittsboro, N. C.—Citizens have voted \$5,000 bonds for street improvements.

Tarboro, N. C.—Citizens will vote May 1 on \$25,000 bonds for proposed street paving.—Paul Jones, Mayor.

Barberton, O.—Council has decided to pave 3d st.; considerable paving is to be done this summer.

Cincinnati, O.—Council has approved approximate estimates for improvements of Sycamore st., 4th to North Court st.; first for asphalt, with wood block between the car tracks, \$40,891.50, and second for wood block entire, \$47,790.50.

Jackson, O.—City is considering street paving to cost \$8,000.—M. H. Monahan, City Engineer.

Perrysburg, O.—Council has voted to pave 2d st. from Hickory to Pine, seven blocks; brick will probably be used; estimated cost \$48,000.

Oklahoma City, Okla.—Mayor Dan V. Lackey has signed resolution adopted by Council authorizing the advertisement for bids for about 27 miles of paving in various outlying districts of city.—Bob Parman, City Clerk.

Portland, Ore.—City will pave Mississippi ave. this spring from Goldsmith to Prescott st.; distance of one mile.

Woodburn, Ore.—Council has passed Resolution No. 71, providing for improvement of a portion of Hayes st. with hard surface pavement at an estimated cost of \$13,271; also Resolution No. 72, providing for improvement of a portion of Garfield st. at cost of \$11,055.

Bellevue, Pa.—Citizens have voted \$25,000 bonds for street improvements.

Dallas, Pa.—County Commissioners are considering asking next Grand Jury for permission to improve Kingston and Dallas turnpike from Luzerne Borough through Courtdale Borough and Kingston Township to Trucksville.

Hazleton, Pa.—Council has decided to pave Diamond ave.—S. J. Hughes, City Clerk.

Pittsburg, Pa.—Council is considering resolution providing \$8,000 for grading, curbing and macadamizing of road from end of Beacon st. to connect with park drive in Schenley Park.

Steelton, Pa.—Highway Committee will engage engineer to lay out grade for paving of Second st.

Thornton, R. I.—Johnstown Town Council has asked for \$7,000 appropriation for highway improvements.

Greenville, S. C.—County is considering paving of Buncombe road.—J. P. Goodwin, Supervisor.

Southern Pines, S. C.—Road Commissioners of McNeill Township have decided to construct road to Hoke county line to meet road connecting Southern Pine and Raeford.

Chattanooga, Tenn.—Improvement and widening of main road from this city to St. Elmo is being considered.

Lookout Mountain, Tenn.—Town will petition Legislature for authority to issue \$25,000 of bonds for road and street improvements.—J. B. Ragon, Chairman Committee.

Nashville, Tenn.—Board of Public Works has decided to ask for bids for building concrete sidewalks on sections of twenty-one streets.

Sweetwater, Tenn.—Monroe County is considering \$250,000 bond issue to build pike roads.

Dallas, Tex.—City Commissioners have decided to ask bids for paving 2d, 3d and 10th aves.

Galveston, Tex.—Commissioner Austin will advertise for estimates on work of paving with shell Avenue I, between Seventh and Eighth sts.

Sherman, Tex.—Citizens have voted \$5,000 bonds for street improvements.

Seattle, Wash.—Board of Public Works has approved plans and specifications for grading Fifth ave., N. E., and paving Eighth ave. S., and Duwamish st.; also received following estimates: Grading Belvidere ave., \$63,800; south half of East Union st., \$3,500.

Spokane, Wash.—Bids on street improvement work estimated to cost over \$60,000 have been rejected by Board of Public Works, leaving contracts to be readvertised and let by new commissioners.

Spokane, Wash.—Council has ordered the Board of Public Works to prepare plans and specifications for grading, curbing, parking and sidewalk of Helena st., 10th ave. to Southeast blvd.

Spokane, Wash.—East Sprague ave. residents are urging paving of that thoroughfare.

Huntington, W. Va.—County Court will soon let contracts for repairs to pikes leading from this city.

Berlin, Ont., Can.—Council will soon call for tenders for paving King st.

Medicine Hat, Alta., Can.—Council has passed by-laws to provide for following street improvements: Concrete sidewalks, \$83,500; curbs and gutters, \$17,500; sidewalks, \$5,500; sewers, \$51,500.

Niagara Falls, Ont., Can.—Alderman Cole, Chairman of the Board of Works, will ask Finance Committee for appropriation of \$19,500 to be used in up-keep of the city streets.

CONTRACTS AWARDED

Selma, Ala.—To R. B. Cook & Co., by Dallas County Board of Revenue, to build 6½ miles of good road on south side, \$12,000.

Jacksonville, Fla.—Grading and laying pavement and curbing at Dignan Park, to F. J. Trout; tile walk \$1.27 per sq. yd.; A. J. Cesery Co. bid \$1.30 per sq. yd., and Logan Concrete and Engineering Co., \$1.32 per sq. yd.; bids for laying curbing were 9c. per running ft., same for each bidder.

Manatee, Fla.—Building hard roads throughout county, to J. S. Tarror, Manatee Livery Co.—J. O. Gates, Supervisor.

Highland, Ill.—To Highland Marble Works for construction of 7,600 ft. of macadam road on upper Sebastopol road, \$10,644.

Jeffersonville, Ind.—Construction of gravel road in Owen, Bethlehem and Washington Townships, to W. Walter Taggart, \$5,568.

La Fayette, Ind.—Constructing the Higley gravel road, to Snyder & Barner, Frankfort, at \$6,995.

Rockville, Ind.—Constructing road in Liberty Township, to J. B. Thomas & Co., Kingman, \$4,375; other bidders: W. G. Carty, Montezuma, \$4,400; J. P. Vaufoassau, Rockville, \$5,100; Chas. Ireland, Montezuma, \$4,875; Ewbank & Ewbank Kingman, \$4,725.

Wabash, Ind.—Construction of gravel roads, to Conover & Tooper, \$19,480; to Kilty & Hick, \$10,675; to C. J. McGreevey & Son, \$5,950; Frank Murphy, \$8,180.

Williamsport, Ind.—Constructing gravel road in Warren Township, to Haynes & Waymire, \$11,439; other bidders: D. H. Fatont, \$12,495; Frank Simms, \$12,557; W. W. Cram, \$12,980; Fred Cunningham, \$11,909; E. H. O'Leary, \$13,229.

Topeka, Kan.—Paving 20 blocks with brick to the Kaw Paving Co., \$55,000.

Detroit, Mich.—Grading and paving various streets: Berlin st., 26 ft. wide, with cedar blocks, to T. E. Currie, 20 McGraw Bldg., \$15,644; Dearborn ave., with cedar blocks, 30 ft. wide, less single track, and 40 ft. wide, less double track, to F. Porath & Son, Penobscot Bldg., \$10,859; Dix ave., 46 ft. wide, less double track, with cedar blocks, to F. Porath & Son, \$11,804; Missouri ave., 26 ft. wide, with cedar blocks, to Julius Porath, at \$8,402; Willis ave., 26 ft. wide, with cedar blocks, to F. Porath & Son, at \$20,824; Third ave., with cedar blocks, 28 ft. wide, to Julius Porath, \$52,869; Canton ave., 26 ft. wide, with sheet asphalt, to Otis Cement Construction Co., 1010 Hammond Bldg., at \$29,141; paving to be on concrete foundation with Amherst curbing.

Bernardsville, N. J.—Stone roads, asphaltic binder, total length of both roads 1,790 ft., to A. C. Denahan, Yardley, Pa., \$5,070.

Jersey City, N. J.—Repaving Jackson ave. on 6-in. concrete base, to Van Keuren & Sons at 79 per cent of the estimated cost.—George Bouton, City Clerk.

Brooklyn, N. Y.—Paving 85th st. with asphalt pavement on a concrete foundation and paving and repaving with granite blocks on a concrete foundation, from a point east of 11th ave. to 12th ave., to Brooklyn Alcatraz Asphalt Co., 407 Hamilton ave., at following bid: 8,829 sq. yds. asphalt pavement, 5 years' maintenance, 90c.; 1,394 sq. yds. granite pavement, 1 year maintenance, \$2.75, and 1,470 cu. yds.

concrete for pavement foundation, \$5; total, \$19,130; totals of other bidders: Barber Asphalt Paving Co., 30 Church st., New York City, \$21,671; Cranford Co., 52 9th st., Brooklyn, \$19,529; Uvalde Asphalt Co., 1 Broadway, New York City, \$19,269.

New York, N. Y.—Repairing street pavements under jurisdiction of Park Department, to Barber Asphalt Co.; about \$12,000.

Elizabeth, N. C.—Paving streets to E. J. McGuire, Norfolk, Va., with Baltimore brick, \$1.42 sq. yd.; Water st. is to be paved with granite block.

Akron, O.—Paving $3\frac{1}{2}$ miles of Akron-Hudson road, to Pickett & Faust, Martin's Ferry, \$75,000.

Lorain, O.—Constructing sidewalks and crosswalks throughout city, to H. A. Schallion, \$11,598; other bidders: A. Graupner, \$11,635; H. N. Oberlander, \$11,912; M. L. Jackson, \$11,943; Aaron Besh, \$12,032; McHugh Bros., \$12,524.

Wooster, O.—Paving 3,700 ft. of road, to Herring & Son, Mansfield, \$8,150; other bidders: D. R. Houser, Wooster, \$8,198; D. A. Phillips, Ashland, \$8,800; and L. Winder-son, Orrville, \$8,900.

Wilson, Pa.—Paving and sewerage Mendelssohn ave., to Maynard & Flynn, Pittsburg, \$12,173.

Beaumont, Tex.—To Elliott Andrews, to grade road leading from El Vista to West Port Arthur, distance $3\frac{1}{4}$ miles, average bid, 18c. per cu. yd.

Dallas, Tex.—Furnishing 10-ton road roller, to J. I. Case Threshing Machine Co., \$1,650.

Dallas, Tex.—Paving Jefferson st., Oak Cliff, 10th to Tyler st., to the Standard Engineering and Construction Co., \$74,824.90.

Seattle, Wash.—Planking alley in block 56, to Hansen & Co., 4102 Twenty-fifth ave., S. W., \$463; wood and concrete walks on Seneca st., to same, \$764.34, and curbing and wood walks on Waters ave., \$26,976.

Superior, Wis.—Macadamizing county road, city limits to Cutler, to Russell Construction Co., city, grading \$1,400, stone \$2.60 per yd.; all culvert work during year to Richard Russell, city; macadamizing South Range road, distance 3 miles, to Ed. Johnson, grading \$990; stone \$2.67 per yd.; road north of Solon Springs to Jos. Andre, Bennett.

BIDS RECEIVED

Bridgeport, Conn.—Supplying crushed stone, (a) $\frac{1}{2}$ -in., (b) 1-in., (c) $\frac{3}{4}$ -in., (d) screenings; Blitz Co., (a) 82c., (b) 87c., (c) 90c., (d) 68c.; Rockland Trap Rock Co., (a) 85c., (b) 92c., (c) 90c., (d) 80c.; G. E. Sykes Co., (a) 90c., (b) 90c., (c) 90c., (d) 90c.; Connecticut Trap Rock Co., (a) \$1, (b) \$1, (c) \$1.20, (d) \$1; bids were based upon 3,000 tons of $\frac{1}{2}$ -in. stone, 2,000 tons of 1-in., 1,000 tons of $\frac{3}{4}$ -in. and 3,000 tons of screenings; all bidders offered to deliver by boat excepting Connecticut Trap Rock Co., which uses cars.

Jersey City, N. J.—Reconstructing three sections of Boulevard: Bergen section, Van Keuren & Son, 71 per cent.; Thomas Harrington Sons Co., 92 per cent.; Joseph Murphy & Son, 69 1-3 per cent.; Edward P. O'Neill, J. F. Shanley Co., 99 per cent., and William Baker, 59 per cent. Greenville and Bayonne section: M. J. Curley, 85 per cent.; William Baker, 59 per cent. and Jos. Murphy & Son, 69 1-3 per cent. In Bayonne. William Baker's bid on entire job, \$80,180.89, while estimate furnished by Engineering Dunham gives total of \$135,901.50, two estimates on the three sections work out as follows: Bergen section, Baker, 47,421.25; Dunham, \$80,375; Greenville, Baker, \$18,400.63; Dunham, \$31,187.50; Bayonne, Baker, \$14,359.01; Dunham, \$24,339.

Newark, N. J.—Lowest bidders for paving various streets: Astor st. with brick, McMahon Construction Co., \$14,282; West End ave. with asphalt block, Hastings Pavement Co., \$13,420; for paving Seymour ave. with brick, Newark Paving Co., \$4,257.

Amsterdam, N. Y.—Paving, Clearfield block, Baird Bros., lowest bidder: 8,400 sq. yds. brick pavement, \$2.35; 200 lin. ft. header, 25c.; total, \$19,790; for 1,000 lin. ft. curb additional, 73c.; making total with curb of \$20,520.

Brooklyn, N. Y.—Furnishing and delivering 1,600 tons of 2,000 lbs. each of refined asphalt at municipal asphalt plant, 7th st. basin: Union Oil Co., of California, \$35,440; Barber Asphalt Paving Co., New York City, \$43,200.

New York, N. Y.—Furnishing all the labor and materials required for regulating, grading and paving the South st. ferry approach, and for constructing subway ducts at the St. George Ferry, Uvalde Asphalt Paving Co., 1 Broadway, city, lowest bidder, \$9,054; other bidders: Atlanta Contracting Co., \$11,690; Joseph Johnson Sons, \$9,470; M. Di Menna, \$9,287; Frank J. Gallagher, \$11,500; J. A. Donovan, \$9,995; Thomas Tarpey, \$11,375.

Portland, Ore.—Paving entire Beaumont district, which will cost approximately \$150,000 with bitulithic pavement, Elwood Wiles was only bidder. Warren Construction Co. submitted proposal to pave Stanton st. district improvement with bitulithic, \$157,750; Barber Asphalt Paving Co., lowest bidder for paving E. Everett st. district of Laurelhurst, \$149,195; completion of Vista ave. improvement, \$23,685; Oregon Hassam Paving Co., only bidder; Oregon Independent Paving Co., underbid Barber Asphalt Paving Co. for paving E. Washington St. with asphalt pavement, \$7,569.

Spokane, Wash.—Grading in West Grove addition: James C. Kennedy, \$124,980; Mas- sie Bros. & Long, \$125,000; Naylor & Norlin Co., \$126,489; Mitchell Bros., \$129,000.

Fond du Lac, Wis.—Paving South Main st., 10th st. to the Ditch: John Rasmussen & Sons Co., Bar block \$1.94 $\frac{1}{2}$ per sq. yd., Purington block \$2.02 per sq. yd., Metropolitan block \$2.10 per sq. yd.; curb and gutter 47c.; totals, Bar block \$20,260.35, Purington block \$20,951.10, Metropolitan block \$21,637.90; G. H. Stanchfield, Bar block \$2.07 per sq. yd., Purington block \$2.15 per sq. yd., Metropolitan block \$2.23 per sq. yd.; curb and gutter 46c.; totals, Bar block \$21,339.90, Purington block \$22,076.70, Metropolitan block \$22,813.50; Christ Johnson: Metropolitan block \$2.16 per sq. yd., Purington block \$2.10 per sq. yd., curb and gutter 44c.; totals, Metropolitan block \$22,191.40, Purington block \$21,638.80; John Brogan: Danville block \$2.02 per sq. yd., Indiana paving block \$2.02 per sq. yd., curb and gutter 50c.; totals, Danville block \$21,069.20, Indiana paving block \$21,069.20; on cement street, Rasmussen and Sons Co., paving \$1.45 per sq. yd., curb and gutter 47c., track work \$1,650; total \$15,701.40; G. H. Stanchfield, paving \$1.43, curb and gutter 47c., track work \$1,800; total \$17,372.20; John Brogan, paving \$1.39, curb and gutter 50c., track work \$1,216; total \$15,266.90; on cressed block, Rasmussen & Sons Co., paving \$2.49 per sq. yd., curb and gutter 47c., track work \$1,650; total \$25,279.80; G. H. Stanchfield, paving \$2.53, curb and gutter 47c., track work \$1,800; total \$25,612.20; Christ Johnson, paving \$2.54, curb and gutter 44c., track work \$2,000; total \$25,661.20; John Brogan, paving \$2.44, curb and gutter 50c., track work \$1,216; total \$24,937.40.

SEWERAGE

Texarkana, Ark.—Engineer A. B. Matson has begun preliminary survey of territory to be affected by Improvement District No. 10; cost \$40,000 to \$50,000.

Corning, Cal.—Plans are being prepared for construction of complete sewer and water system; estimated cost, \$70,000.

Los Angeles, Cal.—Board of Public Works is considering need of storm drains.

San Francisco, Cal.—Board of Public Works has recommended construction of sewers on Lincoln ave. at cost of \$125,000.

Denver, Col.—Installation of sewer district to be known as Part A of Sub. Dist. 1 of West and South Side Sanitary Sewer District is being considered; cost \$20,283.

Winsted, Conn.—Borough is considering installation of \$150,000 sewer system.—Chas. A. Patterson, Engineer.

Pensacola, Fla.—Board of Bond Trustees, together with Engineer George Rommell, Jr., have completed plans for sewer work which is to be done at total cost of about \$80,000.

Camilla, Ga.—Plans have been prepared for construction of sewers at estimated cost of \$150,000.—T. B. Perry, Mayor.

Macon, Ga.—Consulting Engineer Wilcox has been instructed by Council to prepare surveys and profiles for an auxiliary sewer system in South Macon.

Savannah, Ga.—Council is considering construction of system of house and storm drainage; City Engineer Howard has made preliminary plans; estimated cost of gravity system to drain southeast section, \$285,970, including the covering Bilbo Canal, \$150,000; same system for western section, \$67,770.

Kokomo, Ind.—Professor Sackett, of Purdue University, Lafayette, Ind., is preparing plans for proposed sewer system; cost about \$50,000.—Ben Havens, City Clerk; Jackson Morrow, City Engineer.

South Bend, Ind.—City Engineer Wm. S. Moore is preparing plans for proposed Bowman Creek sewer; pipes to be 10 ft. in diameter at intake and 12 ft. at outlet.

South Bend, Ind.—Preliminary resolution for a pipe sewer on Angelina, Blaine, McCartney and Portage aves. has been adopted by Board of Public Works.

Clinton, Ia.—City Engineer R. C. Hart has been ordered to make plans, specifications and an estimate for paving Fifth ave. from Second st. to Fifth st. with cressed wood block paving; 12,000 sq. yds. required.

Shenandoah, Ia.—Council has decided to extend sewer on West Grout ave.

Tipton, Ia.—Iowa Engineering Co., Clinton, has been selected to prepare plans for sewer system.

Louisville, Ky.—Residents of Eastover are considering improvements to sewerage system. J. Russell Gaines, County Engineer, is interested.

Easton, Md.—Sewerage Commission has organized, with Mayor Higgins, President; will at once commence laying plans for building proposed sewers.

Birmingham, Mich.—Village has voted \$25,000 bonds for sewer construction.—Geo. E. Dames, President.

Detroit, Mich.—Council has ordered advertisement for bids for constructing number of vit. brick lateral sewers.—J. J. Haarer, Commissioner Public Works.

Ely, Minn.—Council is considering \$30,000 bond issue for constructing sanitary and storm sewers.

Glasgow, Mont.—Plans have been prepared for extension of sewers in Districts 3 and 4; cost \$25,000.

Carthage, Mo.—Plans have been prepared by City Engineer Frank B. Newton for proposed sewer district; estimate shows cost will not exceed \$6.20 per 1,000 sq. ft. of property.

Havelock, Neb.—Grant & Letton, Lincoln, are preparing plans for 10,000 ft. of lateral sewers.

Bogota, N. J.—Plans by Engineer Frank Campbell for sewage disposal plant for this borough have been approved by State Board of Health; plans submitted provide for tank at either northern or southern outlet of sewer system, and the cost will not exceed \$7,000.

Binghamton, N. Y.—Plans for intercepting sewers for conducting sewage of the entire city to a sewage disposal plant located below the city limits have been approved by State Commissioner of Health; if city authorities conform to demands of State Department construction must begin in spring of 1913; estimated cost of interceptor and sewage disposal plant, \$320,000; Geo. L. Robinson, 37-39 E. 28th st., New York City, Consulting Engineer, designed disposal works; City Engineer J. A. Giles designed intercepting sewers, made the surveys and collected necessary data.

Frankfort, N. Y.—Plans are being prepared by Vrooman-Perry, Gloversville, for construction of sewer system and disposal plant.

Scarsdale, N. Y.—Assistant Engineer John Lowery, White Plains, is making preliminary survey for outlet sewer which is to cost \$11,000 and is to make connections with Bronx Valley sewer.

Bellefontaine, O.—Plans have been prepared by the Riggs & Sherman Co., The Nasby, Toledo, for construction of sewage disposal plant; bids will be received about June 1.

Bucyrus, O.—Ohio State Board of Health has just approved plans prepared by Riggs & Sherman, The Nasby, Toledo, for sewage disposal plant.

Bryan, O.—Riggs & Sherman, The Nasby, Toledo, have prepared plans for construction of a sewer system and sewage disposal plant.

Delaware, O.—Riggs & Sherman, Consulting Engineers, The Nasby, Toledo, have prepared plans for the installation of sewage disposal plant.

Marysville, O.—E. A. Kimmler, Columbus, will furnish plans for sanitary sewerage system, \$2,160.

New Bremen, O.—A. Elliott Kimberly, 827 Columbus Savings and Trust Bldg., Columbus, has been retained by Village to prepare plans for sewage disposal.

Pleasant Ridge, O.—Plans have been prepared by Riggs & Sherman, The Nasby, Toledo, for construction of sewer system and sewage disposal plant.

Reading, O.—Plans and specifications have been completed for sanitary sewer system to cost about \$52,750.

Eugene, Ore.—Citizens will vote April 3 on \$28,000 bonds to build trunk sewers.

South Bethlehem, Pa.—Borough Engineer R. E. Neumeyer has submitted to State Commissioner of Health Dixon plans for sewage disposal plant and system.

Clinton, S. C.—City is considering election on construction of sewerage system.

Yoakum, Tex.—Council has ordered surveys for installation of \$30,000 sewer system; plans by D. W. McVea, Secretary Commercial Club.

Blacksburg, Va.—City is considering construction of sewer system.—F. W. Eheart, Mayor.

Colonial Beach, Va.—City has selected Harry Stevens, Union Trust Bldg., Washington, D. C., to prepare plans and specifications for sewer system and water works.—H. W. B. Williams, Mayor.

Puyallup, Wash.—Sewer Committee will soon ask for bids for sewerage Harrison St.; City Engineer W. T. Bowman has

estimated cost of 12-in. wood pipe extension at \$2,020 and 14-in. extension at \$2,280.

Seattle, Wash.—Board of Public Works has received plans and specifications for north trunk sewer in Interbay district.

Spokane, Wash.—Board of Public Works will prepare plans for sewer on upper roadway of Rockwood blvd., Arthur st. to connection in Garfield; also on Garfield and upper roadway of Highland blvd.

Scotstown, Que., Can.—City is considering installation of sewerage and water system; cost, about \$40,000; plans by Engineer A. Dufresne, Sherbrooke.

CONTRACTS AWARDED

Long Beach, Cal.—To S. Zarubica, Los Angeles, for construction of sewer in District No. 7, \$7,889.

Los Angeles, Cal.—To George A. Rogers for construction of a sewer complete in Savannah and other streets, \$26,873.

Pocatello, Ida.—Construction of trunk sewers to R. M. Hardson & Co., Butte, Mont., as follows: 1,800 ft. 12-in. vit. pipe, 12-ft. to 14-ft. cut, \$1,667 per lin. ft.; 334 ft. 15-in., same cut, \$1,973; 220 ft. 20-in., 12-ft. to 16-ft. cut, \$2,968; 600 ft. same, 16-ft. to 18-ft., \$3,468; 90 ft. 24-in., 5-ft. to 8-ft. fill, \$7,385; 180 ft. same, 0-ft. to 5-ft. fill, \$4,695; 990 ft. 24-in., 0-ft. to 5-ft. cut, \$2,611; 60 ft. same, 5-ft. to 8-ft. cut, \$3,021; 510 ft., 8-ft. to 10-ft., \$3,351; 420 ft. 10-ft. to 12-ft., \$3,499; 2,250 ft. 12-ft. to 15-ft., \$4,991; 540 ft., 15-ft. to 18-ft., \$5,681; 270 ft., 18-ft. to 20-ft., \$10,731; 360 ft., 20-ft. to 22-ft., \$11,611; 450 ft., 22 to 25 in., \$12,291; 720 ft. 30-in. pipe, 0 to 5 fill, \$5,851; 40 24-in. x 6-in. Y specials, \$3,251; 40 6-in. 1/2-bends, 75c. each; 149 6-in. vit. pipe risers, 25c. per vert. ft.; 509 6-in. vit. pipe house connections, 0-ft. to 10-ft. cut, \$1 per lin. ft.; 1 flushing man-hole and connection, \$275; 370 manholes and appurtenances, \$6 per ft. of depth; 60.5 tons c.-i. pipe, exclusive discharge pipe, \$90; 1 grit chamber and appurtenances, \$225; 3,200 cu. yds. rock excavation, \$2.75 per cu. yd.; 474 cu. yd. excav. in soil, clay and loose gravel, \$2; 634 cu. yds. extra earth filling, \$1; broken stone or gravel filling, \$2; 200 cu. yds. of concrete with forms furnished by contractors, \$12; 26,000 ft. of lumber for sheeting, \$27 per M.; 9,000 ft. of lumber, left in place, \$35 per M.; resurfacing 1,725 sq. yds. gravel streets, 35c.; c.-i. pipe discharge apparatus and appurtenances at Portneuf River, \$3,500; furn. 4-in. tile drain, 50c.; total, \$69,833.05; engineer's estimate, \$92,493.53; other bidders, Moran Contracting Co., Ogden Utah, \$75,089.18; Gillis Construction Co., Salt Lake City, Utah, \$77,178.99; F. W. Whittier, Twin Falls, \$80,599.25; Bannock Engineering Co., City, \$81,824.42; Lindstrom & Orem, Billings and Butte, Mont., \$87,999.65; Montague & O'Reilly, Portland, Ore., \$90,397.10; W. W. Cook & Son, Junction City, Kan., \$94,204.65; Strange & Maguire, Salt Lake City, Utah, \$94,275.25; Geo. Irving, Salt Lake City, Utah, \$94,345.05; E. M. Eby, Wichita, Kan., \$95,444.40 and Jas. Kennedy Const. Co., Salt Lake City, Utah, \$97,433.75.—W. A. Samms, City Engineer.

Rock Island, Ill.—Construction of west section of Seventh Ward sewer system, to D. E. Keeler & Co., Davenport, \$55,697.

Abilene, Kan.—To Snyder & Peterson, Guy Hall, for construction of storm sewer.

Billings, Mont.—Constructing a sanitary sewer in Special Improvement District No. 69, requiring about 1,010 ft. 10-in. and 3,400 ft. 8-in. sewer, with necessary "Y" branches, 7 manholes and 2 flush tanks, to E. Lindstrom for \$6,966.

Jamaica, L. I., N. Y.—To Litchfield Construction Co. for building sewer in Liberty and Stoothoff aves., \$51,395.

Erie, Pa.—To Clarence Wolfran for constructing 9-in. sewer in 24th st., \$1.15 for 9-in. pipe and laying, 40c. for 6-in. pipe, \$1.40 for Y and T branches, and \$39 for manholes.

Toronto, Ont., Can.—To O. W. Rice, city, for construction of storm overflows for sewerage tanks, 30c. per lin. ft.

BIDS RECEIVED

Jacksonville, Fla.—Laying of sewer and drain pipes in certain streets of city: 250 ft. of 12-in. c.-i. pipe on Missouri, 5th to Cleveland sts.: Bryan & Co., \$4 per ft.; Logan Engineering & Concrete Co., \$3.50; F. W. Long & Co., \$2.88. 940 ft. 10-in. c.-i. pipe, Cleveland, Missouri to 3rd sts.: Bryan & Co., \$3.50; Logan Co., \$3.25; Long Co., \$2.54. 500 ft. 30-in. circular brick drain, in alley west of Palm st.: Bryan & Co., \$4.50 per ft.; Logan Co., \$4.75; Long Co., \$4.54. 300 ft. circular brick drain, south of Highway ave.: Bryan & Co., \$4.65; Logan Co., \$4.75; Long Co., \$3.95. 600 ft. 15-in. rein. concrete pipe, Holloman, north of Highway: Bryan & Co., \$1.75; Logan Co., \$1.98; Long Co., \$1.88. 1,100 ft. 15-in. rein. concrete pipe, Highway ave., Holloman to Estelle st.: Bryan Co., \$2.30; Logan

Co., \$1.98; Long Co., \$1.88. 960 ft. rein. concrete pipe, Highway, Lime to Devine st.: Bryan & Co., \$2.75; Logan Co., \$1.98; Long Co., \$1.88. 465 ft. 12-in. rein. concrete pipe, Highway, Lime to Devine st.: Bryan & Co., \$2.10; Logan Co., \$1.73; Long Co., \$1.48. 300 ft. 12-in. double-strength terra cotta pipe, Highway, Holloman to Smith st.: Bryan & Co., \$1.65; Logan Co., \$1.73; Long Co., \$1.48. 600 ft. 10-in. terra cotta pipe, Osceola, Irene to Highway: Bryan & Co., \$2.25; Logan Co., \$1.50; Long Co., \$1.57. Building manholes on sewers: Bryan & Co., \$40 each Logan Co., \$45 each; Long & Co., \$46 each. Building manholes on drains: Bryan & Co., \$40 each; Logan Co., \$50 each Long Co., \$46 each. 13,700 ft. 8-in. terra cotta pipe on 17 streets: Bryan & Co., \$1.19; Logan Co., \$1.40; Long Co., \$1.22.

Evansville, Wis.—Construction of sewer system; work comprises approximately 7,936 lin. ft. of 8-in. sewer, 5,491 lin. ft. of 10-in., 450 lin. ft. of 12-in., 223 lin. ft. of 15-in., 3,303 lin. ft. of 18-in., 42 manholes, 2 septic tanks, inverted siphon; A. C. Schreier, Manitowoc, \$24,904.88; R. J. Hickey, Milwaukee, \$24,768.08; H. Hohensee, Milwaukee, \$23,810; W. O. Bahr, Manitowoc, \$22,571.38; F. C. Robinson, Manitowoc, \$22,247.30; Sweeney Bros., Reedsburg, \$21,518.61; F. E. Kaminski, Watertown, \$19,967.79; E. R. Harding, Racine, \$19,838.29; N. F. Reichert, Racine, \$19,530.26; J. T. Blake, Madison, \$19,277.25; Robert Nelson, Racine, \$16,458.51.

WATER SUPPLY

Gadsden, Ala.—Citizens will vote on \$50,000 bonds to rebuild, improve and extend water system.

Huntsville, Ala.—Council has authorized purchase of water purification plant to be installed at pumping station.

Mena, Ark.—City has passed ordinance for construction of water works.

Tracy, Cal.—City has decided to give franchise to private corporation to install water works.—H. R. Youngblood, City Clerk.

Winters, Cal.—Contract will soon be let for water works from plans of the O'Neill Engineering Co.; cost about \$20,000.—W. J. M. Farland, City Secretary.

Washington, D. C.—Consul Alfred A. Winslow, of Valparaiso, has reported that the Chilean Government has decided to put in water works at Valparaiso, at estimated cost of \$53,690 United States gold, and complete water systems at Guindos, Buin, San Bernardo, and San Joaquin, at estimated cost of \$128,042. Address No. 6376, Bureau of Manufactures.

McDonough, Ga.—Council has ordered plans for water works; J. B. McCrary & Co., Atlanta, Ga., will make survey of city and submit plans.

Oglethorpe, Ga.—Citizens will vote April 12 on \$18,000 bonds to install water and lights.

New Athens, Ill.—Plans are being prepared by C. A. Dedinger, Chemical Bldg., St. Louis, Mo., for construction of water works to cost about \$28,000.

Odell, Ill.—City will issue \$7,000 bonds for water works improvements.

Rockford, Ill.—Citizens will soon vote on \$200,000 bonds for installation of water works system.

Broad Ripple, Ind.—Installation of water works system is being considered.

Monticello, Ind.—Board of Public Works will soon let contract for water works improvements.

Mulberry, Kan.—Citizens will at once vote on \$17,000 bonds to build water works plant.

Baltimore, Md.—About April 1, Chief Engineer Alfred M. Quick, of Water Department, will call for bids for constructing the new million dollar filter plant near Lake Montebello; several weeks later he will call for bids for building new 21,000,000-gal. impounding reservoir on the Gunpowder River above Loch Raven.

Avon, Mass.—Town will extend water mains at cost of \$15,000.

Holyoke, Mass.—Water Board is considering advisability of building small reservoir near high-service reservoir with capacity of 1,000,000 gals.—T. J. McCarthy, City Engineer.

East Grand Rapids, Mich.—Town is considering \$40,000 bond issue for construction of water works and sewer system.

Milan, Mo.—Hiram Phillips, Consulting Engineer, Third National Bank Bldg., St. Louis, Mo., has been selected to prepare plans for construction of water works system; cost \$25,000.—J. W. Bingham, Mayor.

Bridgeport, Neb.—Town Board is considering election April 4 on \$18,000 bonds for water works.—R. H. Willis, Engineer.

Riverhead, L. I., N. Y.—Town is considering the construction of water plant. John Hogen is interested.

Tarboro, N. C.—Citizens will vote May 1 on \$25,000 bonds for proposed water works;

plans by Gilbert C. White, Durham.—Paul Jones, Mayor.

Cincinnati, O.—Council has passed ordinances authorizing Water Works Department to contract for sterilization plant at the California filtration plant at cost not to exceed \$6,500; two water turbines with electric generators, at \$5,500; two wash water pumps for filtration plant, at \$6,000.

Lowellville, O.—Citizens have voted to install water works system; cost between \$60,000 and \$75,000.

South Charleston, O.—Citizens will vote May 2 on \$22,000 bonds for water works.

Bridgeport, Okla.—Plans and specifications have been prepared by Oklahoma Engineering Co., 120 Broadway, Anadarko, for extension of old water works at cost of \$8,000.

Carnegie, Okla.—Oklahoma Engineering Co., 120 Broadway, Anadarko, has prepared plans and specifications for construction of a water works.

Welch, Okla.—Cooke-Gregory Engineering Co., Keystone Bldg., Joplin, Mo., is preparing preliminary plans for construction of water works.—J. H. Van Arsdale, City Clerk.

Hermiston, Ore.—Council is planning to construct distributing system, including reservoir and pumping plant south of town.

Toledo, Ore.—Council is considering construction of water works system.

Clarion, Pa.—Clarion Water Co. has employed Engineers Chester & Fleming, Pittsburgh, to design and install water filtration plant.

Coatesville, Pa.—Council has appropriated \$1,000 to Board of Health to be used in sinking artesian well.

Vineland, Pa.—Borough Council has instructed the Superintendent of Public Works to purchase another engine to keep pace with growing demand for water and electric light.

Bridgewater, S. D.—All bids opened on March 6 for water tank and tower have been rejected.—David B. Huston, City Engineer.

Clarksville, Tenn.—City is considering opening bids about May 1 for erection of buildings for water works; steel, brick and concrete structures; cost about \$15,000; water works will require two turbine centrifugal pumps and steel standpipe of 290,000 gals. capacity; \$50,000 to \$60,000 to be expended.—Hazelhurst & Anderson, Atlanta, Ga., Engineers; S. J. Love, Superintendent City Water Works.

Sherman, Tex.—Citizens have voted \$20,000 bonds for improvement of water works.

St. Albans, Vt.—Mayor S. C. Greene has recommended increasing of water supply.

Blacksburg, Va.—City is considering construction of water works.—F. W. Eheart, Mayor.

Colonial Beach, Va.—City has selected Harry Stevens, Union Trust Bldg., Washington, D. C., to prepare plans and specifications for water works and sewerage system.—H. W. B. Williams, Mayor.

Lexington, Va.—City has selected N. Wilson Davis, Harrisonburg, as engineer in charge of construction of water works; 800,000 gals. capacity; will lay pipe from 30,000,000-gal. impounding reservoir, distance of 11 1/2 miles.—Samuel B. Walker, Jr., Mayor.

Seattle, Wash.—Cost of laying water mains in North 50th st. has been estimated at \$22,700; Board of Public Works has received plans and specifications for laying mains in Alik ave.

Charleston, W. Va.—Fire Chief Rand has recommended improvements and extensions of water system for better protection against fire.

Battleford, Sask., Can.—Water works system will be installed in spring; estimated cost, \$100,000.—H. C. Adams, Secretary-Treasurer.

Scotstown, Que., Can.—Citizens are considering the installation of water and sewerage system; cost, about \$40,000. Engineer A. Dufresne, Sherbrooke, has prepared plans.

CONTRACTS AWARDED

Colton, Cal.—To the Fairbanks-Morse Co., 423 E. 3d st., Los Angeles, for air compressor for municipal water works, \$2,392; to Frank J. Kimball, I. W. Hellman Bldg., Los Angeles, for air lifts, \$3,150.

Oceanside, Cal.—To United States Pipe Co., San Francisco, for c.-i. pipe, \$34.15 per ton, and fittings, \$62 per ton; total cost about \$13,000.

Turlock, Cal.—To Wm. Heafey, Chestnut and Pierce sts., San Francisco, for extensions to water system; cost \$16,431.

Chicago, Ill.—To the Platt Iron Works Co., Dayton, O., for installation of two 25,000,000-gal. motor-driven centrifugal pumps for the 22d st. pumping station at \$53,949; other bids were: Worthing, Bassler & Co., six bids, \$39,468 to \$40,593; Alberger Pump Co., \$41,517; Lathbury-D'Oiler Co., \$41,562; Camden Iron Works, \$46,434; L. H. Prentice & Co., two bids, \$52,023 and

\$52,749; Platt Iron Works Co., four bids, \$53,949 to \$55,610; Gindele Bros. & Co., two bids, \$58,200 and \$55,900; each unit is a horizontal-shaft single-stage pump direct connected to an alternating-current motor capable of delivering 25,000,000 gals. daily under total head of 115 ft.; contract includes bed plates, starting apparatus, switchboards and equipment, exciters and transformers to step down the current from 12,000 to 440 volts, wire connections, suction pipe from the pumps to the well, discharge piping to 4 ft. outside of the building, two check valves and four hydraulically operated gate valves.

Lake Mills, Ia.—To Des Moines Bridge and Iron Co., for erection of standpipe, \$2,286.

New Orleans, La.—Furnishing c.-l. pipe and castings for water works, to U. S. Cast Iron Pipe and Foundry Co., Chattanooga, Tenn., as follows: 4-in., \$26 per ton; 6-in., \$25; 8, 10 and 12-in., \$24.50; 14 to 48-in., \$24, and specials, \$50 per ton.

Detroit, Mich.—Building Fairview pumping station, to Langley & Jaynes, 68 Toledo ave., \$19,200.

Mt. Clemens, Mich.—To Fairbanks-Morse & Co., Beloit, Wis., for pumping engine for water works, \$5,660, and to Wm. Baragwanath & Son, Chicago, Ill., for condenser, \$560.

Madison, Minn.—Drilling well to F. F. Gray, & Co., Milwaukee, Wis., \$3.25 and \$4.16 per ft.

Hornell, N. Y.—Construction of storage reservoir and pipe line to Gray & Miller, city, \$40,440.22; contract for pipe to United States Cast Iron Pipe Co., \$26,286.39.

Cincinnati, O.—Laying 12-in. water main in North Bend road, from Cheviot to College Hill, to J. J. Brown, lowest bidder, \$14,274; Evan Evans was highest bidder, \$21,141.

Cherokee, Okla.—Water and light extension: To Ludlow Co., for furnishing hydrants and valves; to the Oklahoma Engineering Co., Anadarko, for general construction; to E. J. Merkle, representing Skinner Engine Co., for high speed engine, \$1,360.

Seattle, Wash.—Laying water mains on West Anover st., to Jahn Construction Co., \$26,976.

Neenah, Wis.—To C. W. Nelson, city, for construction of intake and reservoir for water supply and power.

Sheridan, Wyo.—To Jas. Kennedy, of Fargo, N. D., for laying about \$8,694 ft. 14 and 10-in. mains, \$24,833.

Hamilton, Ont., Can.—To Chadwick Bros., city, for furnishing compression stop and corporation cocks and 50 hydrant drop valves.

BIDS RECEIVED

Harlowtown, Mont.—Construction of water works, Lindstrom & Oren, \$9,390; Gans & Anderson, \$9,885; J. S. Penson, \$7,749; R. M. Bardsen & Co., \$7,800; William Garrard, \$8,310.—C. M. Thorpe, Bozeman, Engineer.

New Brighton, S. I., N. Y.—Furnishing, constructing and erecting pumping station near the existing Grant City driven well plant, Borough of Richmond, (a) building, (b) 100 cu. yds. excavation, per sq. yd., (c) 50 cu. yds. concrete per cu. yd., (d) totals: W. H. C. Russell, (a) \$40,000, (b) \$1.25, (c) \$12, (d) \$40,725; Jas. I. Valentine, (a) \$38,724, (b) \$1, (c) \$11, (d) \$39,374; Concord Construction Co., (a) \$28,770, (b) 85c., (d) \$6.25, (d) \$29,167; Wechsler & Nichols, (a) \$30,400, (b) 40c., (c) \$9, (d) \$30,890; Chas. H. Peckworth, (a) \$34,741, (b) \$1.50, (c) \$12, (d) \$35,491; Thos. J. Buckley & Co., (a) \$30,679, (b) \$1.50, (c) \$7.50, (d) \$31,204; Mitchell Construction Co., (a) \$29,735, (b) 50c., (c) \$7, (d) \$33,735; Masonry Construction Co., (a) \$32,890, (b) 65c., (c) \$7.75, (d) \$33,342; Thos. McKeon, Inc., (a) \$32,973, (b) \$1, (c) \$10.80, (d) \$33,613; I. T. Walsh Construction Co., (a) \$31,400, (b) 60c., (c) \$8, (d) \$31,860; P. Wolff & Sons, (a) \$43,861, (b) \$2, (c) \$16, (d) \$44,861; Kelly & Kelley, Inc., (a) \$30,965, (b) \$2, (c) \$7, (d) \$31,515.

New York, N. Y.—Water improvements, (a) hauling and laying water mains and appurtenances in various streets east of Park ave., Bronx, and (b) furnishing, delivering and laying water mains in Moshulu Parkway, at intersection with Jerome ave. and in Jerome ave. and removing existing water mains: James Burns, 147 East 125th st., (a) \$27,378, (b) \$24,099; Wilton Construction Co., Elliott ave., Williamsbridge, (a) \$24,774; Hanover Construction Co., 215 West 125th st., (a) \$42,841, (b) \$29,554; J. M. Rodgers, 121 West 125th st., (a) \$27,277, (b) \$23,888; Soraci Construction Co., 170 Broadway, (a) \$40,955, (b) \$34,548; L. D. Gregory, 25th st. and 1st ave., (a) \$20,610, (b) \$25,779; Hagerty & Drummond Co., 41 Park Row, (a) \$29,725; F. N. Lewis, 4th ave. and 21st st., (b) \$29,859; Londino & Gallo, Brooklyn, (b) \$36,168; furnishing, constructing and erecting a pumping sta-

tion near existing Grant City driven well plant, Richmond Borough, W. H. C. Russell, \$40,725; Weschler & Nickesch, \$30,890; T. J. Buckley Construction Co., \$31,204; the Masury Construction Co., \$33,441; Thomas McKeown, Inc., \$33,613; P. Wolf & Son, \$44,861; Concord Construction Co., Brooklyn, \$29,167; Chas. H. Peckworth, \$35,491; Mitchell Construction Co., \$30,135; James I. Valentine, \$39,374; J. F. Walsh Construction Co., \$31,860; Kelly & Kelley, \$31,515.

Dallas, Tex.—Furnishing 4,800 ft. of 36-in. water pipe: United States Cast Iron Pipe and Foundry Co., \$25.70 a ton, delivered at Dallas; Hardy Greenwood, \$22.50 at Galveston, or \$25.80 at Dallas.

Seattle, Wash.—First ave. W. et al., water mains: Dicken & Rightmire, \$8,931.70; Allain & Hull, \$8,766.50; Will Kopta, \$9,252.95; J. T. Donaldson & Co., \$9,642.64; Best Construction Co., \$9,565.98; Ferguson Construction Co., 423 Arcade Bldg., \$8,749.83.

LIGHTING AND POWER

Montgomery, Ala.—Richard Tillis has secured engineers to prepare plans for erection of an electric lighting plant which will furnish light and power.

Helena, Ark.—Plans are being prepared for power house and gas plant to be erected by Helena Gas Co. Address General Manager O'Brien.

Elsinore, Cal.—Council has passed ordinance granting M. A. Gardner and M. L. Cambern franchise to construct, lay, maintain and operate gas pipes and mains for purpose of carrying gas for heat and light.—C. P. Carter, City Clerk.

Longmont, Cal.—City is considering municipal operation of electric light and power plant.

Tustin, Cal.—County Board of Supervisors will receive bids shortly for installation of electric lighting system in Tustin and vicinity.

Washington, D. C.—District Commissioners have ordered erection of several more miles of 100-cp. glowing lamps.

Fort Meade, Fla.—D. O. Rodgers, of Wauchula, and Engineer J. G. Fancy, of the American Diesel Engine Works, are at the head of a movement to organize stock company of Fort Meade, Bowling Green, and Wauchula people with capital stock of \$50,000 to erect modern power house to generate electricity for heating, lighting and power purposes in these towns.

McDonough, Ga.—Council has ordered plans for electric light system; J. B. McGrady & Co., Atlanta, will make survey of city and submit plans.

Oglethorpe, Ga.—Citizens will vote April 12 on \$18,000 bonds to install lights and water.

Columbus, Ind.—Indianapolis, Columbus and Southern Traction Co. is planning to let contract for construction of dam in Driftwood River, construct canal six miles in length and erect and equip power house for generation of electricity.—Will G. Irwin, President.

Pendleton, Ind.—Town has sold \$5,000 bonds for installation of electric light plant.

Sioux City, Ia.—Plans for electric power plant which Council has considered erecting in vicinity of Main st. pumping station have been submitted to Councilman G. B. Healy; cost \$27,000.

Mulberry, Kan.—Citizens will at once vote on \$5,000 bonds to install electric light plant.

Bowling Green, Ky.—City will install engine and centrifugal pump in electric light plant; bids will be asked.

Paducah, Ky.—McCracken County Commissioners are considering graveling of 20½ miles of road this year.

Everett, Mass.—Everett Gas Co. is considering extension of its mains about eight miles; cost about \$32,065.—W. W. White, General Manager.

Springfield, Mass.—Gas and Electric Light Commissioners have granted United Electric Light Co. of this city permission to issue shares of new capital stock for improvements.

Taunton, Mass.—Council is considering giving Committee on Public Works authority to make contract for care of street lights other than electric lights, and authority to contract for naphtha, glass, etc., for the same class of lights.

Elsie, Mich.—Citizens have voted \$5,000 bonds for lighting purposes.

Hastings, Mich.—Citizens will vote in April on \$120,000 bonds to establish water power plant which will operate municipal electric pump and pumping station.

St. Louis Park, Minn.—Village Council has granted Minneapolis General Electric Co., Minneapolis, 25-year franchise to light the village; company is to install system within six months.

St. Paul, Minn.—The Senate has passed bill giving city authority to enter into con-

tract with street lighting companies for periods of two years.

Handsboro, Miss.—City has granted franchise to Gulfport and Mississippi Coast Traction Co. to construct electric light and power system in and through city; Supervisors of Harrison County, Gulfport, have granted company franchise to construct system along road between Gulfport and Biloxi; company will construct three-phase 18,000-volt transmission system over country road, through Handsboro and into Biloxi, distance about 15 miles.

Kingston, N. Y.—Electric substation of Newburgh Light, Heat and Power Co. near Highland Station has been burned.

Chimney Rock, N. C.—North Carolina Interurban, George L. McKay, General Manager, Rutherfordton, will construct power houses.

Ashtabula, O.—Council has appropriated \$10,000 for use of the city lighting plant, which will double its capacity; two boilers will be installed to cost about \$6,300; bids will be asked for in the near future.

Heavener, Okla.—Heavener Light and Power Co. will construct electric light plant; cost of plant \$5,000.—E. M. Cooper, Manager.

Baker City, Ore.—Estimates will be prepared for municipal lighting plant; plan is to construct pipe line from Elk Creek to Salmon Creek, including construction of new reservoir of 3,000,000 gals.

Forest Grove, Ore.—Council has granted 25-year franchise to Independent Electric Co. for the transmission of current and erection of poles over certain streets.

Medford, Ore.—Colonel Frank Ray, Prest, and Managing Director of Rogue River Electric Co., will let contracts within few weeks for construction of power plant on the Upper Rogue River, near Prospect; cost in neighborhood of \$1,000,000.

Harrisburg, Pa.—Legal notices are now being published in Lehigh, Schuylkill, Carbon, Northampton, Bucks and Montgomery counties stating that application will be made April 3 by W. A. Lathrop, Rollin H. Wilbur and H. F. Baker, of Philadelphia, for charters for about 60 electric companies in these five counties.

Two Lick, Pa.—Indiana County St. Railways Co. has decided to erect power plant which, according to plans, will be duplicate of present plant.—John G. St. Clair, Secretary.

Edgefield, S. C.—Town is considering establishment of electric light plant.

Walterboro, S. C.—John D. Glover, G. C. Brown, T. J. Blanchard and others are interested in establishment of electric light plant.

Miller, S. D.—The Miller Electric Co. is considering installing 100-h.p. boiler and tungsten street lighting system and additional lines in several parts of city.—L. Kellough, Manager.

Nashville, Tenn.—Extension of gas mains into suburbs is being urged by Mayor Howse.

Stowe, Vt.—Village Trustees will contract with Morrisville Electric Light and Power Co. for power to light streets of village and vicinity and also for commercial and house lighting purposes; also voted to empower Trustees to erect pole line with necessary equipment.

Hampton, Va.—Newport News and Old Point Railway and Electric Co. is considering improving power plant.

Mishicot, Wis.—Ira Beyer is interested in proposed establishment of electric light plant.

Albarni, B. C., Can.—Albarni District Electric Light and Power Co. has been incorporated to supply light and power.—W. W. G. McAllister, Secretary.

Magog, Que., Can.—Electric lighting and power plant will be installed this summer; specifications prepared by Messrs. Ross & Holgate, Montreal.

CONTRACTS AWARDED

Louisville, Ky.—By Kentucky Electric Co. for furnishing 2,000 and a 4,000 kw. turbo generator, one 1-100 kw. turbo exciter, one 1-100 kw. motor generator exciter, to General Electric Co., Schenectady, N. Y.; to Babcock-Wilcox Co., Bayonne, N. J., four boilers, each with 5,000 sq. ft. of heating surface, four superheaters and four stokers; Louis S. Strong, Chief Engineer of company, with Sargent & Lundy, of Chicago, are Engineers who will have charge of erection of plant, which will cost \$600,000.

Annapolis, Md.—By Anne Arundel County Commissioners to Consolidated Gas & Electric Light Co., Baltimore, 5-year contract for furnishing electric current for lighting Brooklyn, Curtis Bay and other sections of the Fifth district contiguous to Baltimore city; contract is renewal; Arc lamps, \$77; 40-cp. incandescents, \$26.75;

60-cp. incandescents, \$30.75; 80-cp. incandescents, \$34.50, and 200-cp. incandescents, \$67.25.

West Caldwell, N. J.—Borough Council has executed a three-year contract with the Public Service Electric Co. providing for lighting of that municipality with 80 lights.

Schenectady, N. Y.—By East Creek Light and Power Co. to General Electric Co., to supply electrical equipment for new station at Ingham Mills on East Canada Creek.

Coraopolis, Pa.—Furnishing machinery for electric light and water plant, to Buckeye Engine Co., for engine of 225-h.p.; to Struthers-Weiss Co. for two engines, one of 150 and the other 175-h.p.; to Crocker-Wheeler Co. for three generators, and the Westinghouse Electric and Mfg. Co. for switchboard, and Reineke-Wagner Co. for pump with a capacity of 1,500,000 gals. of water daily.

Marcus Hook, Pa.—By Council for electric street lighting, to Beacon Light Co., Chester.

Fort Worth, Tex.—To Nutt Light & Power Co. to furnish electrical power to pump artesian water supply at rate of 1 2-10 cts. per kilowatt hour; contract is for five years.

FIRE EQUIPMENT

Phoenix, Ariz.—National Board of Fire Underwriters has recommended establishment of two new auto hose companies, purchase of 2,000 ft. of 2½-in. fire hose, new ladders for ladder truck, installation of boxes, appliances, etc., and general improvement to fire alarm system.

Bridgeport, Conn.—Architect will soon be selected to draw plans for \$15,000 engine house to be built on Putnam st.

Bloomington, Ill.—Fire Chief Henry Mayer recommends purchase of aerial hook and ladder truck and additional hose.

Coeur d'Alene, Ida.—Fire Chief O'Rourke will investigate cost of motor combination hook and ladder truck and chemical engine with 3,000 ft. of hose.

Athol, Mass.—Board of Fire Engineers has recommended purchase of combination fire truck.

Attleboro, Mass.—Town has voted to purchase \$5,500 auto truck.

Greenfield, Mass.—Town is considering purchase of auto truck.

Hull, Mass.—Town has voted to erect \$9,000 fire station.

Methuen, Mass.—Town has voted to appropriate \$6,000 for purchase of combination chemical and hose automobile.

Saugus, Mass.—Citizens have voted to purchase auto combination chemical and hose with two ladders at cost of \$5,500.

Duluth, Minn.—Work will soon begin on erection of \$4,000 fire hall at Lakeside.

Springfield, Mo.—Fire Chief H. McLaughlin has recommended purchase of additional fire apparatus.

Newmanstown, N. J.—Newmanstown Fire Co. will build its own home, engine house and hall.—Dr. J. H. Horne, President.

Paterson, N. J.—Police and Fire Commissioners will expend over \$250,000 in next few months to equip fire department with auto fire engines.

Perth Amboy, N. J.—Fire Chief Theodore Anderson has recommended equipment for the various houses, including combination hose and chemical wagon for McClellan Engine Co.

Thorofare, N. J.—Fire company is considering erection of fire house.

Tarrytown, N. Y.—Columbia Hose Co. has presented petition to North Tarrytown Board of Trustees asking that \$2,500 be raised for purchase of automobile hose wagon.

Barberton, O.—Council is considering erection of hose house in western part of city.

Tiffin, O.—Central fire station has been condemned; city is preparing to erect new station.

Erie, Pa.—Fire Chief McMahon has recommended erection of two fire stations.

Mauch Chunk, Pa.—Fire companies of city are considering installation of alarm system.

Thornton, R. I.—Johnstown Town will vote April 8 on \$300 appropriation for hook and ladder truck for fire company at Graniteville.

Chamberlain, S. D.—Council has decided to erect fire hall.

Moundsville, W. Va.—City is considering purchase of auto fire truck.

CONTRACTS AWARDED

Shelbyville, Ky.—Installing electric fire alarm system to Star Electric Co., Birmingham, N. Y., \$1,805.

Paterson, N. J.—Furnishing 2-passenger Buick car for Fire Chief John Staggs to Hughes Garage, Prospect St., \$1,128.

BIDS RECEIVED

Dallas, Tex.—Furnishing 2,000 ft. of 2½-in. fire hose, 400 lbs. pressure, Eureka Fire Hose Manufacturing Co., 90c. to \$1.20; Voorhees Rubber Manufacturing Co., 90c. to \$1.10; Fabric Fire Hose Co., 90c. to \$1.10; Briggs-Weaver Machinery Co., \$1.10; Boston Woven Hose and Rubber Co., 90c. to \$1.10; Chicago Fire Hose Co., 85c. to 95c.; Ben F. Wolfe & Co., 85c. to 95c.; Diamond Rubber Co., 65c.

BRIDGES

Grass Valley, Cal.—Bennett st. bridge has been condemned by City Trustees and new concrete bridge has been ordered erected.

Grand Junction, Col.—Construction of a bridge over Grand River at Main st. is being considered.

Stites, Ida.—Bids will soon be received by Idaho County Commissioners for construction of the bridge over Salmon River; \$15,000 has been appropriated.

Batavia, Ill.—Bids will be received about April 1 for construction of concrete bridge over east branch of Fox River; cost about \$29,000.

Greensburg, Ind.—Decatur County Commissioners have ordered plans and specifications for construction of two and repair of 12 bridges.

Huntington, Ind.—Commissioners of Huntington County have prepared plans and specifications for construction of 20 bridges and culverts; bids will soon be asked.—J. B. Vernon, County Engineer.

Vincennes, Ind.—County Commissioners will ask new bids for building three bridges.

Cedar Rapids, Ia.—Council has sold \$150,000 worth of bridge bonds to the Continental Commerce Savings Bank, Chicago; proceeds will be used to erect concrete bridge across Cedar River at 3d ave.

Leavenworth, Kan.—Joseph O'Neil, City Engineer, is preparing estimates for proposed bridge across Three-Mile Creek on 3rd st.

Salina, Kan.—Contract for 50-ft. steel girder bridge across Dry Creek on highway of Smolan will be let by County Commissioners next month.

Winslow, Me.—Concrete bridge will be erected over Mile Brook Stream; \$4,000 available.

Duluth, Minn.—Park Board is receiving bids for erecting eight bridges on Lester River.—Address S. F. Swirley, 118 Manhattan Bldg.

Pitman, N. J.—If borough and Washington Township will build approaches Gloucester County Board of Freeholders stands ready to erect bridge over creek for new highway from Pitman to stone road.

Hugo, Okla.—Choctaw County will vote April 18 on \$120,000 bonds for construction of 21 bridges.

Medford, Ore.—Plans have been prepared by City Engineer W. W. Hannon for erection of proposed \$12,000 Gold Hill bridge.

Doylestown, Pa.—Bucks County Commissioners have granted three new bridges, one over Newtown Creek, in Newtown Township; at Schwenk's Mill, in Hilltown Township, and the third on the line between the borough of Ivyland and Warminster Township.

Providence, R. I.—Plans are about completed for construction of bridge at Hunts River on Post road between Providence and the Pier by towns of North Kingstown, Warwick and East Greenwich.

Smithville, Tenn.—De Kalb County is considering construction of bridge across Caney Fork; cost about \$12,000.—T. J. Potter, President County Commissioners.

Galveston, Tex.—County Board will ask for bids for erecting of bridge over Todd's Bayou.

Vanderbilt, Tex.—Jackson County Commissioners, Edna, are considering construction of bridge across Lavaca River.

Fredericksburg, Va.—Road Commissioners of Spotsylvania County are asking new bids for erecting bridge over Hazel Run.

Rocky Mount, Va.—Board of Supervision is considering erection of bridge across Pico River.

Marinette, Wis.—City Engineer A. L. Hillis has completed plans for proposed Middle bridge, to be constructed jointly by cities of Marinette and Menominee, Mich.; Engineer's estimate of cost \$145,000, not including approaches and street work.

CONTRACTS AWARDED

La Salle, Ill.—By Board of Supervisors for construction of bridge over Indian Creek, near Leland, to Decatur Bridge Co., Decatur, Ill., approximately \$3,000.

Paris, Ill.—Paris Bridge Co., city, for construction of bridge over Sugar Creek in Elbridge Township.

Nebraska City, Neb.—To H. T. Ward & Co., Lincoln, for bridge building and cement work for Otoe County for coming year.

White Plains, N. Y.—Constructing two reinforced concrete bridges over Bronx River and contracts, Bronxville bridge, to O'Rourke Construction Co., Yonkers, \$8,887, and Tuckahoe bridge, to E. J. Doyle & Co., Albany, \$7,742.

York, Pa.—To General Supply and Construction Co., to erect concrete bridge across Furnace Creek, \$1,237.50.

Fredericksburg, Va.—By Road Commissioners, Spotsylvania County, for building concrete bridges: Gayle's Run, to Roanoke Bridge Co., \$1,432; Massaponax Run bridge, on the C. H. road, to same company, \$1,183; Massaponax Run bridge, on Telegraph road, to E. W. Woodward, Richmond, \$1,466.25.

Milwaukee, Wis.—Constructing reinforced concrete highway bridge over Kinnickinnic River at Chicago ave., to Czaropata Construction Co., city, \$5,750.

Superior, Wis.—Building bridge over Nemadji River to Hennepin Co., Minneapolis, \$4,940; 60-ft 1-beam at Wentworth to Russell Construction Co., city, \$2,400; concrete arch on Hawthorne road to same, \$720.

BIDS RECEIVED

Los Angeles, Cal.—Construction of reinforced concrete bridge across Arroyo Seco, near the Ostrich farm at South Pasadena, (a) for work complete, (b) hand railings and pylons, (c) 80 concrete piles, per ft., (d) Class A concrete per cu. yd., (e) Class B, (f) Class C, (g) reinforcing steel, per lb.; J. D. Kneen Construction Co., Santa Monica, bid (a) \$149,000, (b) \$6,750, (c) \$12.50 per pile, (d) \$10, (e) \$9, (f) \$8, (g) 5c.; Chas. Stansbury, H. W. Hillman Bldg., bid (a) \$153,964, (c) \$10, (d) \$9, (e) \$8.50, (f) \$8, (g) 4c.; J. F. Hall-Martin Co., Stimson Bldg., bid (a) \$157,500, (b) \$7,100, (c) \$12, (d) \$9, (e) \$7.50, (f) \$6, (g) 3½c.; Mercereau Bridge and Construction Co., Pacific Electric Bldg., bid (a) \$169,600, (c) \$25, (d) \$8, (e) \$8, (f) \$8, (g) 5c.; the F. O. Engstrom Co., 5th and Seaton sts., bid, (a) \$248,239, (c) \$24, (d) \$10, (e) \$8, (f) \$7, (g) 4c.; the Cement Products and Construction Co., bid, (a) \$5,171; T. J. Shea, 1616 Ingraham st., (a) \$140,700, (b) \$6,500, (c) \$1 per ft., (d) \$10 per cu. yd., (e) \$8.50, (f) \$6.50, (g) 5c. per lb.

Cedar Rapids, Ia.—Building bridge over Cedar River at 3rd st., B. J. Sweatt, Boone, lowest bidder, \$155,988.50.

White Plains, N. Y.—Construction of two bridges over the Bronx River (a) from Yonkers to Tuckahoe, at Underhill st., and (b) from Yonkers to Bronxville, at Swain st.; McDonald & Murray, Yonkers, (a) \$8,889; E. J. Doyle & Co., Yonkers, \$7,788; O'Rourke Construction Co., (a) \$8,887, (b) \$9,227; Wilson & English Co., New Rochelle, (a) \$9,600, (b) \$11,500; James Garofano, Mt. Vernon, (a) \$8,965, (b) \$9,875; Atkinson Co., New York, (a) \$9,300, (b) \$9,450; Frank Nordoe, Mt. Vernon, (a) \$8,190.50, (b) \$9,900.50; Ensinger Co., New York, (a) \$8,918, (b) \$9,418; S. W. Speirs, Jr., Co., New York, (a) \$11,156, (b) \$13,970; Westchester Engineering Co., city, (a) \$11,989, (b) \$15,993; Coughlin & Louman, (a) \$10,289, (b) \$12,269; Howard & Worm, (a) \$10,005, (b) \$12,968; Kennedy Co., Albany, (a) \$9,373, (b) \$9,373; N. Fagnani & Bro., Tuckahoe, (a) \$12,370, (b) \$14,670.

Philadelphia, Pa.—Widening the Chestnut st. bridge from 60 to 70 ft.; American Paving and Construction Co., \$101,900; M. & J. B. McHugh, \$108,600; Owego Bridge Co., \$119,930; Stockel Steel Co., \$136,000; John McMenemy, \$135,000.

Janesville, Wis.—Erecting bridges: Racine st., Central States Bridge Co., \$14,490; Worden-Allen Co., \$16,480; Milwaukee Bridge Co., \$16,750; the Hiel Co., \$16,900; T. McGrath Cons. Co., \$16,931.29; Hayes Bros., \$18,860; Fourth ave., Central States Co., \$21,850; Hiel Co., \$24,500; Worden-Allen Co., \$24,560; T. McGrath, \$25,590; Hayes Bros., \$25,810; Milwaukee Bridge Co., \$26,950.

MISCELLANEOUS

Los Angeles, Cal.—Finance Committee will recommend that the identification bureau of the police department be allowed \$1,509 asked for filing cabinets, measuring instruments for the Bertillon system and other needed equipment.

Niles, Cal.—Board of Supervisors will consider erection of \$2,500 jail.

Oakland, Cal.—Playground Commission has decided to request Board of Education for permission to equip three school yards as playgrounds for use during coming summer vacation.

Susanville, Cal.—Supervisors have decided to ask new bids for erection of proposed county jail.

Vallejo, Cal.—Board of Works has decided to ask for bids for constructing proposed municipal wharf.—Wm. J. Torrey, City Clk.

Waterbury, Conn.—Preliminary plans have been prepared by Architect E. E. Benedict for the proposed alterations to city hall, which call for new public comfort station in basement, addition to Town Clerk's office, addition to vault, new fire-proof vault for the City Engineer and other alterations.

Dover, Del.—Council has decided to improve Hurd Park.

Gainesville, Fla.—Alachua County is considering erection of modern jail.

Pensacola, Fla.—Bids will soon be asked for furnishing spring uniforms for police and fire departments.

Tampa, Fla.—Board of Public Works will secure plans of local architect for erection of \$50,000 library.

Huntington, Ind.—Erection of city crematory is being considered.

Michigan City, Ind.—Establishment of public playground is being considered.

Thayer, Kan.—Citizens have voted to erect \$5,000 city hall.

Louisville, Ky.—City has sold \$500,000 city hospital bonds to John W. & D. S. Green.

Louisville, Ky.—Board of Public Works, Dr. R. Lyman, Chief Engineer, desires correspondence with persons or firms relative to installation of garbage disposal plant.

Hammond, La.—City has decided to erect jail building.

Lake Charles, La.—Livaudais & Favrot, New Orleans, will prepare plans for erection of proposed city hall.

Baltimore, Md.—Plans for new city stables to be erected on Greenmount ave. have been finished by Building Inspector Preston; building will start soon; cost about \$2,500.

Boston, Mass.—Commissioner Rourke, of Department of Public Works, has rejected bid submitted by Bath Iron Works to build double screw ferry boat for \$149,500.

Brookline, Mass.—Health Department has been allowed \$4,000 to provide for better system of collecting ashes.

Detroit, Mich.—Marcus Polasky has applied for 50-year franchise for building of subway system at estimated cost of \$400,000 per lin. mile.

Saginaw, Mich.—Board of Park and Cemetery Commissioners will ask Council for necessary authority to construct lodge house at Forest Lawn, to cost \$11,000.

Duluth, Minn.—Mayor M. B. Cullum has recommended light grade crossings; extension of municipal garbage collection; extension of park system; installation of workhouse and progress in municipal dock proposition.

St. Louis, Mo.—City is considering construction of steel scavenger dump barge, 36 ft. beam, 100 ft. long, 2-ft. draft; estimated cost \$9,500.—W. B. Dryden, Secretary Board Public Improvements.

Central City, Neb.—Merrick County is considering election on erection of court house.

Ocean City, N. J.—Council has ordered specifications for extension of the boardwalk from 17th ave. to 23d ave.

Bronxville, N. Y.—Citizens will soon vote on \$100,000 expenditure for park lands.

Cincinnati, O.—Police Chief Jackson is visiting Detroit, Cleveland and other cities to inspect new methods of using police patrols.

Columbus, O.—Council will consider \$100,000 bond issue for erection of city prison.

Toledo, O.—Council has authorized issuance of \$75,000 bonds for park and boulevard improvements.

Hugo, Okla.—Citizens will vote Apr. 18 on \$125,000 bonds to build jail and court house.

Allentown, Pa.—Water Board has decided to establish playground for children along Little Lehigh.

Erie, Pa.—Council has finally passed \$38,000 bonding ordinance for installation of garbage plant.

Philadelphia, Pa.—Working plans will be prepared by Architect John Windrim, Commonwealth Bldg., for proposed city convention hall.

Pittsburg, Pa.—Council is considering \$15,000 appropriation for merry-go-rounds in three parks and \$10,000 for comfort station and shelter house in Olympia Park, and \$14,000 for same in McKinley Park, south side.

Charleston, S. C.—Police Chief Boyle is considering purchase of auto patrol; \$1,500 available.

Parker, S. D.—City hall, cost \$15,000, will be erected this summer.

Humboldt, Tenn.—City is considering bond issue for erection of city hall.

Temple, Tex.—City is preparing to erect crematory; committee from Council, composed of Mayor Hamill, Aldermen J. J. Booker and W. W. Swain, will visit various cities to secure data.

Paris, Tex.—Citizens have voted \$10,000 bonds for public comfort station.

Weatherford, Tex.—Commissioners' Court has decided upon plan for improvement and beautifying of court house yard, and as soon as the specifications are completed County Judge is authorized to advertise for bids for work; the plans have been drawn up by Superintendent of Public Works C. W. Camp.

Opportunity, Wash.—Town has voted \$2,000 bonds for town hall.

Benwood, W. Va.—Plans by Dixon Engineering Co. have been accepted for erection of proposed \$7,200 crematory.

Grand Rapids, Wis.—Warren H. Manning, landscape gardener, Boston, Mass., will draft city plan of improvements, which include park system along both sides of Wisconsin river.

CONTRACTS AWARDED

Birmingham, Ala.—To Varley & Bauman for furnishing summer uniforms for police department, \$18.25 each.

Chico, Cal.—Erecting municipal building to E. D. Sharp, city, \$50,726.

Los Angeles, Cal.—Board of Public Works has consented to transfer of the contract for collection of garbage from Charles A. Alexander to the V. D. Reduction Co., a corporation.

Jacksonville, Fla.—Furnishing Police Department with summer uniforms to Cheatham-Alderman Co.

Amite City, La.—Erecting city hall to John D. Ware, city.

Holyoke, Mass.—Removing garbage, to Ernest E. Proulx, \$2,400 per year.

New Bedford, Mass.—Furnishing auto truck for street department, to Harry E. Borden, agent for Johnson Service Co., \$2,000 on board cars at Milwaukee.

Minneapolis, Minn.—Furnishing auto ambulance to Thos. B. Jeffery Co., Kenosha, Wis., \$3,800.

New Brighton, S. I., N. Y.—Regulating, grading and paving South st. ferry approach and for constructing subway ducts at the St. George ferry terminal, Staten Island, to the Uvalde Contracting Co., 1 Broadway, New York City, \$9,055.

Rochester, N. Y.—By Board of Contract and Supply, Building No. 2, Exposition Park, to A. Frederick & Sons Co., \$15,497; Building No. 4, Exposition Park, to H. P. Sickles Co., \$29,826.75; macadam roadway and cement walks for Exposition Park, to William Aikenhead, Jr., \$14,618.

Hamilton, O.—By Board of Control for police patrol system to be established in this city, to Home Telephone Co. at annual rental for 20 boxes, system complete, for \$720 per annum for period of five years, \$3,600.

Philadelphia, Pa.—By Acting Director Hasskard for deck and coal scow, to be utilized in connection with municipal dredging plant, to C. Hiltbrandt, of Esopus, N. Y., lowest bidder, \$2,745; next lowest bid was the Kensington Shipbuilding Co.'s, \$2,960; John H. Mathis Co., of Camden, N. J., submitted bid of \$2,982.

Seattle, Wash.—Furnishing apparatus for inspection of weights and measures to W. & L. E. Gurley, \$1,491.75.

Ripon, Wis.—Street sprinkling for the ensuing season, to Charles Kuehn, \$775, city to furnish water.

BIDS RECEIVED

Boston, Mass.—Boston Disposal Co. has made proposition to dispose of all the city's garbage, except that in East Boston and West Roxbury districts, for 54½c. per ton, or approximately \$235,000 a year.

Holyoke, Mass.—Removing garbage for two years, E. E. Proulx, \$4,800; James T. Reidy, \$3,100; Michael Fitzgerald, \$6,600; S. Beaulieu, Jr., \$3,120; all of Holyoke; John S. Miller, South Hadley Falls, \$3,300.

Eveleth, Minn.—Furnishing 500 numbered garbage cans: Helps-Shea Hardware Co., city, 15x25 in., 16 gals., \$2.12 per can; 18x26 in., 24 gals., \$2.55 per can; Polski Bros., city, 18x26 in., 24 gals., \$2.50; 15x26 in., \$2.10 per can; 21x26 in., 32 gals., \$2.95 per can; Gleason Hardware Co., city, 15x26 in., 15 gals., \$1.76 per can; 17x26 in. \$2 each; 18x25 in., \$2.37 each.

Brooklyn, N. Y.—Construction of Red Hook playground, at Richards, King, Dwight and Pioneer sts., J. W. Fliske Iron Works, 56 Park pl., New York, \$16,225; Frank J. Gallagher, 490 Park pl., New York, \$21,474; Kelly & Kelley, Inc., 45 E. 42d st., New York, \$19,984; John MacArthur, 22 Armond pl., Brooklyn, \$20,076; Wm. Werner, 657 Vanderbilt st., Brooklyn, \$17,295; Norton & Gorman Contracting Co., 339 Douglass st., Brooklyn, \$19,969.

Pittsburg, Pa.—Collection and disposal of the city's garbage, American Reduction Co. bid for collecting rubbish of old Pittsburg at \$185,700, and Allegheny Garbage Co., \$66,500 for taking care of garbage on the north side.

Dallas, Tex.—Furnishing to city two street sweeping brooms: Studebaker Bros. Co., of Texas, \$285 each, delivered; Austin-Western Company, Limited, \$260 each, delivered; W. T. Fulton Company, \$265 each.

TOO LATE FOR CLASSIFICATION

STREET IMPROVEMENTS

Leavenworth, Kan.—Board of City Commissioners has decided to pave Shawnee st. with brick.

Baltimore, Md.—State Roads Commission has authorized County Commissioners of Worcester County to proceed as soon as possible with construction of Pocomoke City end of the Pocomoke City and Snow Hill road; also authorized Chairman of the Commission to advertise for bids for construction of New Market and Monrovia road in Frederick County.

Adams, Mass.—Town has voted to pave and relay Commercial St. at cost of \$45,000.

Westport, Mass.—Town has voted \$2,000 appropriation for macadamizing Blossom road.

Laconia, N. H.—Board of Public Works has asked for appropriation of \$11,500 for bituminous macadam work coming season.—Chas. A. French, City Engineer.

Brownsville, Tex.—Citizens have voted \$80,000 bonds for paving.

Dallas, Tex.—Bids will be asked for paving Germania St., Swiss to Ross Ave.

Taylor, Tex.—Cameron Precinct is considering \$200,000 bond issue for good roads.—Richard Creetz, County Judge.

Franklin, Va.—Town Council is planning to place concrete curbing along Main st. Wood is now in use. Street Commissioner Jackson has been authorized to make experiments with concrete.

Seattle, Wash.—Board of Public Works has approved plans and specifications for grading and filling Alki ave.; grading and curbing 63rd ave., S. W., and Alki ave., and improving four other streets.

Superior, Wis.—Purchase of a motor road roller by Roads and Bridges Committee of County Board for use in the construction of macadam and clay roads throughout Douglas County has been authorized by Board; cost from \$2,400 to \$2,800, and will weigh not less than eight nor more than ten tons.

Brantford, Ont., Can.—Bids will be called shortly for paving Market St., between Colborne and Erie ave.

CONTRACTS AWARDED

Hutchinson, Kan.—Laying 7,800 ft. of curbing to J. H. Shears & Son, 33c. per lin. ft.

Watertown, N. Y.—To W. C. Jones for curb and gutter in two streets, \$1,879.13; to M. R. Klock for Arsenal St. curb, \$1,244.54.

Cincinnati, O.—To B. Niehaus for grading corner of Burnet Woods at Clifton ave. and Calhoun st., \$10,175.

Oklahoma City, Okla.—Paving streets to Cleveland Trinidad Asphalt Co., \$147,185.90; to Western Paving Co., \$351,818.57.

Dallas, Tex.—Paving Live Oak st. with bitulithic to Texas Bitulithic Co., \$2.30 per sq. yd.; total, \$69,026.88; resurfacing Lamar st. to Municipal Paving Co., \$1.50 per sq. yd. for new and 75c. for repair work on old concrete base.

Fort Worth, Tex.—To Texas Bitulithic Co. for paving portions of 5 streets, \$2,083½, with 40c. for extra excavation.

Seattle, Wash.—Grading and curbing Fillmore st. to Rowan & Anderson, 1105 Kilbourne st., \$2,845.

SEWERAGE

Clinton, Ia.—Council has ordered asking of bids for completing sewer system in District No. 4.

Duluth, Minn.—Mayor M. B. Cullum has recommended provision for solution of sewage problem.

Seattle, Wash.—Bids will be advertised for building Virginia st. brick sewer; plans have been approved by Board of Public Works for sewers on two streets.

BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
STREET IMPROVEMENTS				
Iowa.....	Council Bluffs...	Mar. 27, 5 p.m.	Paving with granite blocks portion of Thirteenth av.; with vit. brick blocks portion of South Sixth st.	Chas. J. Duff, City Clk.
Ohio.....	Cleveland.....	Apr. 1, 11 a.m.	Improving county road.	John F. Goldenbogen, Clk. Bd. Co. Comrs.
Indiana.....	Hartford City...	Apr. 3, 2 p.m.	Constructing about 15,070 ft. macadam road in Harrison Twp.	James Cronin, Jr., Co. Audr.
Indiana.....	Fowler.....	Apr. 3.....	Constructing roads in Benton County.	Lemuel Shyman, Co. Audr.
Texas.....	Galveston.....	Apr. 3, 11 a.m.	Grad. and shelling with mud or clam shell about 6 mi. co. rd.	John M. Murch, Co. Audr.
New York.....	Port Jervis.....	Apr. 3.....	Paving portions of various streets.	John F. Cleary, City Clk.
Pennsylvania.....	Ingram.....	Apr. 3, 7:45 p.m.	Grading, curbing and paving portions of various streets.	John S. Murry, Boro. Engr.
Kentucky.....	Winchester.....	Apr. 4, noon.....	Repair and keeping in repair all turnpikes & rds. in Clark co.	Clark County Fiscal Court.
Indiana.....	Paoli.....	Apr. 4, 2 p.m.	Constructing macadam road in French Lick Township.	Alvin B. Ham, Co. Audr.
Indiana.....	Kentland.....	Apr. 4, noon.....	Constructing county road.	E. R. Bingham, Co. Audr.
Indiana.....	Bloomfield.....	Apr. 4, 2 p.m.	Constructing macadam roads in Stoughton Township.	Cashwell H. Jennings, Co. Audr.
Indiana.....	Danville.....	Apr. 4, 10 a.m.	Constructing 12,106 ft. gravel road in Union Township.	Wm. H. Nichols, Co. Audr.
Tennessee.....	Knoxville.....	Apr. 5.....	Paving Central and Eleanor sts.	J. E. Thompson, City Engr.
California.....	Riverside.....	Apr. 6.....	Grading and draining road in Okanogan County.	County Auditor.
Ohio.....	Cincinnati.....	Apr. 7, noon.....	Repairing Lick Run Road.	Fred. Dreihls, Clk. Bd. Co. Comrs.
New York.....	Madison Bar'ks..	Apr. 10, 2 p.m.	Constr. 28,800 sq. ft. macadam road and 800 sq. ft. concrete walk at Barracks.	Constructing Quartermaster.
SEWERAGE				
Michigan.....	Allegan.....	Apr. 1.....	Constructing Depot Hill sewer.	John W. Peet, City Clk.
Pennsylvania.....	Chambersburg.....	Apr. 10, 8 p.m.	Bldg. system of san. sewers, outfall sewer & sewer disp. plant.	S. K. Shryock, Chm. Sewer Com.
Wisconsin.....	Kenosha.....	Apr. 15, 2 p.m.	Constructing Main Trunk sewer.	M. J. Scholey, Chmn.
WATER SUPPLY				
Missouri.....	Columbia.....	Mar. 28, 7:30 p.m.	Furnishing hydrants, valves, valve boxes and special fittings for extensions of water mains.	John S. Bicknell, City Clk.
Ohio.....	Lakewood.....	Apr. 4, noon.....	Constructing an elevated water tower.	Clerk Bd. of Public Affairs.
Pennsylvania.....	Somerset.....	Apr. 5.....	Constructing concrete storage reservoir.	C. I. Shaver, Boro. Secy.
Pennsylvania.....	Chambersburg.....	Apr. 7, 8 p.m.	Constructing a diversion dam and intake chamber, a reservoir of 200,000 gals. capacity and a standpipe.	C. O. Wood, Chmn. Water Comrs.
Montana.....	Helena.....	Apr. 20, 8 p.m.	Con. water works system, reservoir, pipe line & distri. system.	J. A. Mattson, City Clk.
BRIDGES				
Ohio.....	Xenia.....	Apr. 12, 11:30 a.m.	Con. superstructure & approaches of the Louis Hill Bridge.	Board of Co. Comrs.
Indiana.....	Decatur.....	Apr. 14.....	Constructing the Abe Egley bridge.	Board of Co. Comrs.
Wisconsin.....	Kenosha.....	Apr. 15, 4 p.m.	Rebuilding and altering Middle St. Bridge.	R. H. Moth, City Engr.

CONTRACTS AWARDED.

Rochester, N. Y.—Building Section 1 of intersection sewer to Ripton & Murphy. \$133,350.50; sewer on Norton st. to John Petrossi Co., \$1,209.25.

Watertown, N. Y.—Constructing 20-in. sewer in Second Ward to Burns Bros. & Haley, \$19,343.27.

Silverton, Ore.—Building sewer and water works system to Mars Construction Co., Seattle, \$63,940; other bidders: G. Jaeger, Rich Hill, Mo., \$65,450; Jeffery & Buffton, Portland, \$66,320; American Light & Power Co., Chicago, \$67,965; K. Larisset, Corvallis, \$68,745; T. B. Shepherd, Denver, \$70,260; Jacobson, Bade & Co., Portland, \$71,180.

Williamsport, Pa.—Highway committee will recommend to Council acceptance of bid of E. W. Rockwell, Sunbury, for constructing East End sewer; route recommended will be down Penn st. and price \$20,630.72.

Dallas, Tex.—Laying six-inch sanitary sewer to Joe B. Winslett, Jr., \$1,808.80; rock excavation, 20c.; brickwork, \$14.

WATER SUPPLY

Dorris, Cal.—Bids will be received May 1 for \$12,500 bonds for construction of municipal water system.

Cortland, N. Y.—Water Board will soon ask bids for construction of tank to hold 1,000,000 gallons.

Brownsville, Tex.—Citizens have voted \$35,000 bonds for extending water system.

Bridgewater, Va.—William G. Myers, Civil Engineer, Harrisonburg, assisted by Olin Jones, has been engaged to make some surveys looking towards acquiring a water system for town.

CONTRACTS AWARDED

Lowell, Mass.—Furnishing 200-h.p. boiler to be installed in Centralville pumping station to Edgemore Iron Co., Edgemore, Md., \$4,100.

Rochester, N. Y.—Hauling water pipe for year to August Kimmel, \$2,317.

Silverton, Ore.—Building water works and sewer system to Mars Construction Co., Seattle, \$63,940.

Seattle, Wash.—Building Interbay pumping station to Bates & Clark, \$11,771.45; steel water tower on Magnolia Bluffs to Chicago Bridge & Iron Works, \$13,596; N. and W. 74th st. water mains to American Contracting Co., Leary Bldg., \$25,868.

LIGHTING AND POWER

Newport, Cal.—Board of Trustees is considering election on \$55,000 bonds for establishment of light and power plant.

Eveleth, Minn.—Bids will be asked for installation and wiring of "White Way" for Grant ave.

Columbia, Mo.—As soon as specifications are printed bids will be asked for construction of \$70,000 power plant for water and light system, including equipment. —John S. Bicknell, City Clerk.

Endicott, N. Y.—Town has granted 50-year franchise to Union-Endicott Gas Co.; work will soon begin on erection of \$40,000 plant.

Union, N. Y.—Union-Endicott Gas Co. has asked for gas franchise.

Brownsville, Tex.—Citizens have voted \$15,000 bonds for extending electric light system.

FIRE EQUIPMENT

Chicago, Ill.—City has purchased site at 14 Lomax st. for erection of engine house.

Council Bluffs.—B. M. Sargent, Chairman Board of Fire and Police Commissioners, has filed petition asking for following additional appropriations to his annual amount for the coming fiscal year: 1,000 ft. of hose, \$1,100; three nozzles, \$100; twenty-four firemen's helmets, \$100; one ladder pipe, to attach to tower ladders of aerial truck, \$150, and petition that City Electrician's appropriation be raised from \$2,000 to \$2,800, that he may rebuild fire and police telegraph system and repair big bell over central fire station.

East Longmeadow, Mass.—Town has voted \$550 for chemical engine.

Galveston, Tex.—City Commissioners will ask for bids for \$1,650 service truck for fire department.

MISCELLANEOUS

Oakland, Cal.—Board of Supervisors has decided to ask for sites and plans for erection of proposed county infirmary.

Mansfield, La.—Police Jury has called election Apr. 25 on erection of \$80,000 court house and jail.

Hyattsville, Md.—Bids have been rejected for erection of municipal and fire department building.

Nahant, Mass.—Bids will soon be received for erection of town hall to cost about \$7,700.—D. G. Finnerty, Chairman Building Committee.

Eveleth, Minn.—Bids have been rejected for hauling garbage.

Erie, Pa.—Specifications will be prepared for construction of \$14,000 garbage incinerator plant.

Brownsville, Tex.—Citizens have voted \$12,000 bonds for improving market place and \$3,000 for slaughter house.

Houston, Tex.—Harris County has voted \$2,000,000 bonds for improving Buffalo Bayou.

CONTRACTS AWARDED

Eveleth, Minn.—To Polski Bros., city, for providing city with 500 numbered garbage cans at \$2.10 per can for cans 17 by 26 in., 16 gallons, and \$2.50 for 19 by 26 in. cans, 24 gallons.

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PROPOSALS

AIR COMPRESSOR AND TANK

Wauwatosa, Wis.

Sealed bids and proposals will be received by the Board of Public Works of the City of Wauwatosa, Wisconsin, at the office of the City Clerk on Wisconsin Avenue in said City, until Saturday, April 1st, 1911, at 2 o'clock p. m. of said day, for furnishing and delivering to the City of Wauwatosa, for use at its water works plant, and in accordance with specifications on file in the office of the said City Clerk, one Duplex Compound Steam-Driven Air Compressor (90 pounds steam pressure), having a capacity for pumping 500 gallons of water per minute from well 1,350 feet deep; diameter of well, 10 inches for first 50 feet, balance 8 inches in rock. Well now flowing approximately 150,000 gallons each 24 hours.

Also one Air Receiver or Tank of suitable size for use with said Air Compressor.

Party making proposal to deliver Compressor and Tank on foundation at Water Works Plant, Wauwatosa, Wisconsin, within 30 days after award of contract. A detailed description must be furnished with proposal.

Bidders will be required to deposit with their bids a certified check in the sum of 5% of the contract price, payable to the order of the City Clerk, Wauwatosa, Wisconsin, to be forfeited to said City in case of failure to comply with the terms of said proposal, provided contract shall be awarded thereon.

The right is reserved to the City of Wauwatosa to reject any and all bids which may be received under and pursuant to this notice.

Dated this 14th day of March, 1911.

By Order of the Board of Public Works.

EDWARD COULTHARD,
City Clerk, Wauwatosa, Wisconsin.

PROPOSALS

BRICK PAVING

Poughkeepsie, N. Y.

On March 21, 1911, specifications and plans for about 13,000 square yards of brick pavement will be ready for delivery. Bids will be received at the regular meeting of the Board of Public Works of the City of Poughkeepsie, N. Y., at 4 P. M., Thursday, March 30, 1911.

This is the first pavement letting of the season. Additional information may be obtained from

ROBERT J. HARDING,
Superintendent of Public Works.

BRICK PAVING

Dublin, Ga.

Sealed bids will be received until noon, April 18, 1911, by the Mayor and Council of the City of Dublin, Ga., for furnishing material and labor necessary to pave approximately 6,000 square yards of street with vitrified brick.

Plans and specifications, with blank proposal forms, may be seen at the Office of the City Clerk, Dublin, Ga.

The City reserves the right to reject any and all bids.

A. P. HILTON,
Clerk.
M. J. GUYTON,
City Engineer.

(22, 29, Apl. 5)

SANITARY SEWERS

Elyria, O.

Bids will be received by City of Elyria, Ohio, until 12 o'clock noon, March 28, 1911, for constructing Sanitary Sewers; estimated cost. \$27,000.00.

ROSE MORIARTY, Clerk.

PROPOSALS

HYDRANTS, VALVES AND SUPPLIES

Lewistown, Montana.

Bids will be received by the City of Lewistown, Montana, up to 8 o'clock p. m., March 24th, 1911, for the furnishing of fire hydrants, valves, lead, jute and other materials.

Specifications may be inspected at the office of the Municipal Journal and Engineer, and blank form of bid and specifications, or other information, obtained from

P. A. CHASE,
City Clerk, or
O. F. WASMANSDORFF,
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Lewistown, Montana.

Bids will be received by the City of Lewistown, Montana, up to 8 o'clock p. m., March 24th, 1911, for the furnishing of approximately 50,000 feet of cast-iron pipe of 130 lbs. pressure.

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P. A. CHASE,
City Clerk, or
O. F. WASMANSDORFF,
City Engineer.
(1, 8, 15, 22)

CIVIL SERVICE

Assistant Director, Office of Public Roads.
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